

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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No. 2466.—VOL. LII

LONDON, SATURDAY, NOVEMBER 25, 1882.

[WITH SUPPLEMENT.] PRICE SIXPENCE. BY POST, 4s PER ANNUM.

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A TRIP TO COLORADO—No. VII.

BY THOMAS CORNISH, M.E.

Author of "Gold Mining, Its Results, and Its Requirements."

To recapitulate a description of the numerous other exhibits of mineral at the Exposition I can but briefly notice a few that are worthy of a more detailed report. Hinsdale County has a fine collection of mineral ores from over 100 mines, weighing 12 tons, and valued at \$4000. The exhibits represent various kinds and grades of ore, gold, silver, galena, copper, &c., some showing remarkably high assays and mill returns. The Frank Hough Mine shows ores, black oxide of copper, resembling furnace matte, rich in copper and silver, said to average about \$400 per ton. The Bell of the East, the Rosebud, Onargo, Palmetto, Ute, Ule, Champion, Sulphuret Consolidated, Ocean Wave, and others, are all well represented. The Golden Fleece exhibits some very rich specimens of telluride mineral, with assays said to range over \$10,000 per ton, and some mill runs as high as \$4500. Numerous other companies from this county are also well represented.

Jefferson County has not such a large display of mineral ores as others, but has some exhibits of interest of bismuth ore from the Bismuth Queen Mine—silver-steel ores, iron ores, and mica. The exhibits from Leadville and neighbourhood are of a remarkable character, and attract special attention to the enormous wealth of the city and of Lake County generally. One exhibit represents a solid mass of nearly 10 cubic feet of silver, designed to show the value of metal, \$118,500, which was taken out of the Lee Mine in 17½ hours. This celebrated mine has also other exhibits of amalgam, and a silver brick weighing 1800 ozs., with masses of pure horn silver, varying in weight from 4 to 20 lbs. Having been sawn through and polished they present a beautiful appearance. These samples are said to assay 72 per cent. of silver. The show from this wonderfully rich mine is a sight worth seeing. The Matchless Mine has an excellent display of ore of similar character, some high grade galena running as much as 875 ozs. silver and 50 per cent. lead per ton. Several boxes of sand carbonate ores, classed according to value, two boxes of first-class sands, stated to run from 190 to 1480 ozs. of silver per ton. Other samples labelled with higher yields. The Morning and Evening Star Mines have a large and varied display of rich ores from their mines, as also many other mines, including the A. Y., the Silver Chord, and Chrysolite, all fully illustrating the enormous mineral wealth of Leadville and other portions of the County.

La Plata County, in the south-western portion of the State, is one of the new mining counties, and from its display shows good promise of results from a more extensive development of its resources. Samples of iron ore of good quality, and its extent practically unlimited, as also samples of excellent coking bituminous coals from its enormous beds—the Durango coal being 13 ft. thick; the California, 110 ft. thick; and the Peacock coal, 75 ft. thick. Ouray County displays some rare exhibits from over 200 different properties from its four chief mining districts in the San Juan Country. Uncompahgre, Sneffels, San Miguel, and Lower San Miguel in the two former districts the ores are mostly argentiferous grey copper, pyrites, and ruby and brittle silver; the ore mill runs are stated to be from 60 to 600 ozs. of silver per ton, and from 15 to 20 per cent. copper. The Mineral Farm property is said to contain an immense deposit of rich ore, 40 acres in extent, and many of the specimens are very handsome. The Trout and Fisherman Company exhibit rich specimens of same class of ore. Several mines from the Sneffels district also make an excellent display. From San Miguel are samples of fine gold from the placer mines. When at Rico I met two miners who had been prospecting in the Lower San Miguel district for some time, and from their description of the country and the samples of gold they had with them, this portion of the county will, no doubt, develop some rich placer mines, and of great extent. Park County displays a large quantity of samples of various kinds of ore, representing some 250 different mines. The Kansas Mine shows free gold ore, said to yield from ½ oz. to 2½ ozs. per ton. The Centennial shows samples of quartz running from 2 ozs. to 5 ozs. gold and from 5 ozs. to 30 ozs. silver per ton. Many other mines are well represented, giving a good idea of the great wealth of its mineral resources. Pitkin County, the youngest of the State, has a well-arranged display of ores from over 100 mines. The average value of the ores is said to be about \$75 per ton, and the general display augurs well for the future prosperity of the county in the development of its mines.

Rio Grande County has but a small display of ore; but one rich exhibit by the Little Ida Mine is worthy of special notice. The ore is a honey-combed quartz impregnated with iron oxide rich in free gold. If all reports are correct in reference to this property it must possess extraordinary wealth. From one blast it is said 13 bags of ore were broken down, which yielded over 6000 oz., and several blocks of ore are said to yield 25 per cent. gold, and that the results of the crushings from their mill in three months last year was 50,000 oz. Sangache County has a very fair display of ores of good average quality, representing about 100 properties. The general body of the samples show pyrites, grey copper or galena, and a variety of sulphurets mixed with the ores. The general results and prospects from a large number of the mines representing a large tract of country show well for its future prosperity as a great mineral district. San Juan County lies at the south-western portion of the Rocky Mountains, and occupies a rich section of mineral country. Its chief town, Silverton, is reached by the Denver and Rio Grande Railroad from Durango. It has a very large display of rich silver ores from over 100 mines, and a small pyramid built up from specimens from the several mines represented readily affording an idea of the several classes of minerals displayed by the exhibit. The North Star shows two big lumps of ore, galena, and grey copper, weighing 3 tons, said to average 100 ozs. of silver per ton, and other samples of much higher quality. The Aspen group, the Green Mountain, Mineral Queen, San Antonio, King Solomon, and others, all show good samples of ore. The bonanza from Poughkeepsie sends a specimen nearly 1 ton in weight; the ore averages 119 ozs. silver and 15 per cent. of copper per ton.

Summit County, which covers a large section of country on the western slope of the Rockies, has a large collection of ores representing 100 mines, the general averages being from 50 to 300 ozs. of silver. The Fridonia shows some exceedingly rich ore, valued at \$8000 per ton. Many others show remarkably well, and several mines exhibit gold ores, ranging over 2 ozs. per ton gold.

The State of Arizona lying south-west of Colorado, although one of the new States in the Far West, was visited, and known to the Spaniards over three centuries ago, at the time when the riches of New Mexico were first discovered. This part of the country until the last few years has been overrun by the Indians, and its progress of development was seriously retarded by the fierce and bloody struggles with the savage Apaches, who treacherously and silently dogged the footsteps of many of the early mining pioneers, and murdering them at every opportunity. The number of lives sacrificed over the development of this State will in all probability never be known. Reports of the wonderful riches of this State found plenty of venturesome spirits to penetrate the home of the Apaches, until by dint of numbers and the assistance of Government troops the savages have been conquered, if not tamed, and allotted homes in reservations set apart for their use. The word Arizona is said to be derived from two Indian words—"Ari," a maiden, and "Zon," a valley or country. Intrepid prospectors pushed their way into the country, and one veteran, on determining to explore its resources, was advised "he would find a tombstone instead of a bonanza," but in spite of the grim joke with death he boldly pushed into the heart of the Indian country, and discovered some rich mines in the district, which he named Tombstone, in commemoration of the advice given him on starting on his prospecting expedition. It is now one of the chief mining centres, and the capital of Cochise County, with a population of over 6000. The energy with which mining prospecting and development has been pushed ahead in this State during the last few years is something marvellous, and many rich and valuable discoveries have been made that will soon cause Arizona to rank high among the rich mineral-producing States of the West.

On entering the Exposition one of the first brilliant displays of mineral is to be seen at the Arizona stand, where the smaller and

handsome specimens are admirably arranged in glass cases to set forth the enormous wealth of the various mining districts. Over 400 mines are represented, but time nor space will permit the mentioning of only a few, which being so specially attractive cannot be passed over. The beautiful specimens of native silver so prominently displayed have generally a crowd of admirers around them, and the most noted are those of the Silver King Mine, Pioneer district, Pinal County. It has the premier show of silver ore and native silver in beautiful specimens, some in nuggets, some in threads and lovely filagree work, embedded in or attached to quartz. The greater portion of the valuable specimens are enclosed in a glass case, and is a source of much attraction. This valuable property is held by a San Francisco proprietor, and has already produced \$3,000,000. Arizona is not only rich in silver mines, but also has some wonderfully rich copper lodes. The Copper Queen (a fit companion to the Silver King) sitsuate in Warren district, Cochise County, shows one magnificent specimen from the open cut, weighing 1150 lbs. The mine was discovered in May, 1880, and sold at \$13,500. The product up to July 16, 1882, was—Gross amount of ore smelted, 31,909 tons, producing 5252 tons 787 lbs. of black copper, averaging 96½ per cent., having a total value of \$1,825,679; and the amount of ore in sight is stated to be 74,000 tons, worth over \$1,000,000. The ore in the lowest part of the workings is said to be the richest ever discovered in the mine. The general display of ores from Arizona speaks wonders for the future of the State, and that its prosperity and population will rapidly advance. As an instance, since the recent opening of the Tombstone district, it has produced \$10,000,000, or, say, 2,000,000 oz., and the yield for the current year is expected to be nearly \$6,000,000.

INDIAN TREVELYAN GOLD MINING COMPANY.

The subjoined extracts from Mr. J. H. James's recent reports, which the directors submit to the shareholders, cannot fail to be satisfactory and encouraging, not the least important point being that the reef itself is proved to be auriferous, and not only so, but of higher produce than the thin casing under the footwall, which has more than once been declared to be the only portion of the rock containing any gold at all. A small average sample from the reef at the bottom of No. 1 shaft treated raw by grinding with mercury gave at the rate of 2½ dwts. of free gold per ton of ore, and the same sample yielded by the fire assay at the rate of over 8½ dwts. of gold to the ton. A sample of selected stone, with no visible gold, gave at the rate of ½ oz. nearly of free gold to the ton. A portion of this same sample treated similarly, but first calcined dead, gave at the rate of 1½ oz. nearly and by the fire assay 2 ozs. nearly of gold to the ton. The directors remark that Mr. James's statements have never been over coloured, and, therefore, congratulate the shareholders. They have been offered and have accepted the right to test during two years, with option of taking assignment of, the lease of the Dingley Dell Company's property. They have, moreover, obtained a reduction of over 5000 ft. in the purchase money of the Trevelyan estate. The extracts give additional details with regard to the several matters referred to.

No. 1 REPORT, DATED AUGUST 24, 1882.—No. 1 Shaft: During the fortnight, but more particularly during last week, better progress has been made in sinking. We are now 8 ft. below the bottom of the adit level, and the appearance of the hanging wall of the reef exposed for that depth appears to fully warrant the conclusion that we have here a lasting and true lode. Such being so, and experience here pointing to improvement in value as depth is attained, I have very strong hopes that our No. 1 shaft will ultimately prove a productive and valuable centre of extensive mining operations. I am most anxious that this most important point be developed with the greatest possible rapidity.

No. 2 REPORT, DATED SEPT. 15, 1882.—Splendid progress has been made in sinking No. 1 shaft in spite of great difficulties, and from 20 to 25 gallons of water a minute to contend with. (This was written during the monsoon. Pumps have been sent out.) The bottom of the shaft is now down 20 feet from the floor of the adit level, though the ground is not yet squared to that depth. For the whole depth and with a width of about 8½ ft. the hanging wall is exposed in a smooth, perfectly regular, and defined manner. For us, at least, the "gash vein" and other similar theories extant, as to Wynad deposits, appear to be entirely disproved, and the strongest possible evidence is before us that ours is a true lode.

The gneissic rock lying on the hanging wall is the most compact and the hardest I have ever seen. Naturally I am most anxious to cut into the reef at this point, to determine its size and value, but I wish to sink about 3 ft. more before so doing, that the water may not interfere with this work when once commenced. In the adit end the disturbed state of the reef appears to have been due to a slight leave. We are now again driving on the hanging wall. We are only breaking quartz from the south level at present, as we have no room for more men without seriously impeding progress in the shaft. The ore broken seems of fairly average quality, and a little more pyrites appears than ordinarily.

No. 3 REPORT, DATED OCT. 2, 1882.—No. 1 Shaft: At about 20 ft. below the adit we have just cut through the reef; its thickness at this point is 3 ft. 8 in., and contains about 1 ft. in width of almost solid pyrites and ferruginous matter. When I mention that the rock in which the reef occurs is the hardest gneiss it will be understood that the quartz is of the most hard and compact nature to "live" in such rock. The selected stone looks most encouraging, and some assays of it will be made this week.

No. 4 REPORT, DATED OCT. 9, 1882.—No. 1 Shaft: We have been busily employed during the last fortnight in cutting through the reef at a depth of about 15 ft. below the adit level. It still maintains its hard, massive, and compact character, and at the point cut through is 4 ft. in width. Samples taken from here, heretofore noted, afford most convincing evidence of the improved character of the deposit even at such a comparatively small increase in depth; they also confirm the opinion of our staff as to its immense importance, and will, I trust, enable all interested in our property to regard with cheerful confidence the prospect of its present and future development.

PRACTICAL TESTS AND ASSAYS OF ORE.—Fearing from the appearance of our pyrites now being obtained from the reef at the bottom of No. 1 shaft that a large proportion of arsenic entered into its composition, I am pleased to state that I did not find any of this mineral on testing some of the pyrites. With infinite satisfaction and much pleasure I am able this week to give you some most cheering results of assays and tests of our quartz now being produced from No. 1 shaft:—

- (a).—23 ozs. of average quartz from our reef at this place, treated "raw" by grinding with mercury, yielded a result equal to 2 dwts. 18 grs. free gold per ton of ore.
- (b).—The same sample yielded by "fire assay" 8 dwts. 11-34 grs. gold per ton.
- (c).—A sample of selected stone, but not showing a speck of free gold, being chosen merely on account of favourable metalliferous appearances, treated "raw" by grinding with mercury, yielded a result equal to 4 dwts. 13-78 grs. free gold per ton of mineral.
- (d).—A portion of this same sample treated similarly, but first "calcined dead," yielded a result equal to 1 oz. 4 dwts. 8-24 grs. of gold per ton of mineral.
- (e).—The same sample by "fire assay" yielded 1 oz. 18 dwts. 13-12 grs. per ton of mineral.
- (f).—Sample of thin casing under the footwall of reef from same place yielded a result equal to 3 dwts. 4-16 grs. free gold per ton.

2.—Mr. James's statements have never been over-coloured; he has confined his reports to simple and sober narrative of work done and progress made, and has rarely, if ever, indulged in anticipations as to the future. But the strikingly improved character of the lode in No. 1 shaft as we go down has for the first time forced from Mr. James some words of very warm gratification and encouragement. We are even now only a mere trifle (20 ft.) below adit level, and yet the lode is found 4 ft. thick, compact in character, rich in quality, and living between walls of the hardest gneissic rock. In this property we have any amount of surface quartz, but that quartz, though almost everywhere abundant, has proved not rich enough to be worth much attention, and our watchword has been the word "sink."

The directors did not hope for anything so good so little below adit level, and they beg to congratulate the shareholders on present results, as indicating well-founded probabilities of future success.

3.—The directors are glad also to take this opportunity of forwarding to the shareholders two other pieces of gratifying information.

Overtures from the neighbouring Dingley Dell Gold Mining Company were made some time ago offering to lease to this company Dingley Dell proper and Schmidt's application, containing about 200 acres, part of their estate immediately contiguous to the Trevelyan estate. The matter was carefully gone into, and an encouraging report was received from Mr. James.

There are six reefs exposed, several of which have already been considerably developed, and one in particular is of a remarkably massive and promising character. Crushing machinery, consisting of 10 gravitation stamps, and the necessary engine power to drive them, are already on the property or near it.

As the result of the negotiations between the two companies the directors have succeeded in obtaining a lease of the property for two years on highly favourable terms, with the option of taking at the end of that term an assignment of the Dingley Dell Company's leases.

The Trevelyan Company takes over the property, with all existing buildings, plant, and machinery, first on a two years lease, at a rent of 225 ft. for the first year and 200 ft. for the second year, and on condition of paying the Dingley Dell Company half net profits obtained from working that estate. At the end of this two years' lease it will be at the option of this company to take over the Dingley Dell Company's leases absolutely, together with all their plant, buildings, machinery, &c., free of cost, on the condition only of half net profits obtained.

Thus no money payment whatever beyond the above 225 ft. rent for the first year and 200 ft. for the second year will pass to the Dingley Dell Company unless profits are made; and this company will have in addition the free use during the two years of all their plant, buildings, machinery, &c.

4.—The other piece of information relates to the tenure of the Trevelyan estate proper as distinguished from the other two estates of Attikunoo and Lickick.

The Trevelyan estate was purchased under the agreement, dated Feb. 1, 1881, referred to in the prospectus, and in that agreement the tenure of the estate was stated to be leasehold, or, in other words, land which had become forfeited to the Crown, and was then held from the Crown, subject, however, to such obligations and term of holding as were contained in the lease originally granted

by the Rajah, whose estate had become forfeited. In this particular case it had been represented that no rent was payable, and that the tenure was practically as good as freehold. On investigating the title, however, it proved that the land was not leasehold, but really held from the Wandoor Rajah, upon terms which did not, amongst other things, give the right of mining over the whole estate.

Your directors declined to accept the property subject to such conditions, and the vendors then, at some considerable expense to themselves, obtained a lease from the Wandoor Rajah of both surface and minerals for a term of 99 years free of rent or any onerous obligations, with the right, on payment of a fine, of renewing for a like term of 99 years upon same terms.

Your directors considered that notwithstanding the new lease was for a very long term, and subject to no onerous covenants, that there was a difference between holding from the Rajah and holding under the Crown, and they, therefore, declined to accept the substituted lease unless the vendors made a substantial reduction in the price. The reduction was ultimately fixed at 5000 ft., and that sum, in addition to all the costs incurred by the company in connection with the matter, has been received by the company.

It may be mentioned that no interruption to the company's works on the Trevelyan estate has taken place.

5.—The directors trust the above facts will be satisfactory to the shareholders as they are to them. The greatly improved character of the quartz as we go down the addition of 5000 ft. to the working capital of the company, and the acquisition of the valuable plant and machinery, and the best part of the Dingley Dell Company's estate, are subjects upon which the shareholders are to be congratulated. The directors will only add that as the quartz near the surface has been turned out poorer than was expected, it is necessary to develop the mine in depth, and while time must elapse before sufficient quartz can be brought to bank. Meanwhile, every possible economy is practised consistent with rapid underground development.

By order of the board, H. LYON, Sec.

WHEEL HONY AND TREVELYAN UNITED SILVER-LEAD MINING COMPANY.

A thorough inspection of these important mines was recently made by Messrs. Thomas Collingwood Kitto and M. Heslop, Mining Engineers, and the following very favourable reports have been received by the directors. Mr. Kitto (Nov. 13) writes:—

Agreeably to your request I have inspected the Wheel Hony and Trevelyan Mines, and without any prefatory remarks I must say they (the mines) have evidently been very carefully secured in a good locality, and reflect much credit on whoever selected them. The Wheel Hony and Trevelyan are silver-lead mines, situate in the parish of Menheniot, Cornwall. The past history of Trevelyan and other mines in the immediate neighbourhood proves beyond a doubt that this is one of the richest—if not actually the richest—silver-lead districts in the county. The lode, which is a true fissure vein, traverses the property in a northerly and southerly direction, and its dip, so far as seen at present, is almost vertical, or rather, the portion of the lode which has been most extensively worked is vertical.—Underground Workings: The descent into the mine after the first 3 fms. is through the excavations from which the former workers raised their large quantities of ore, consequently, a very fair idea can be gained of the character of the work done by the old company. The vertical portion of the lode appears to be much softer than the diagonal portion of the lode, and this may account, to a certain extent, for its being so much more extensively worked than any other portion of the lode. I was very much struck by a remark of Captain Hancock, who said that "hundreds of fathoms of the lode had been stoped out with nothing but very long crow-bars," and the extreme narrowness of many of the excavations, fully corroborates Capt. Hancock's statement. This seems to me a fact that ought to be thoroughly investigated, because it is highly probable that in many places the lode may be standing by itself, and richer than what has been taken away. In passing through one of the old levels I was struck by seeing a beautiful block of silver-lead ore, which was broken and placed by the side. Capt. Hancock informed me that it had fallen from above, but whether it was a portion of the debris, or had fallen from the side, it was impossible for him to know. This is a matter which ought fully to be investigated, because if the debris will produce such fine lumps of beautiful ore, it can be rendered marketable at a good profit; but if this fine lump of ore fell from the side of the excavations, it shows there is a body of ore standing by the side, perhaps, far richer than the portion of the lode which has been already worked. The water in the mine has been pumped out to a depth of 108 fms., at which point the level (tunnel) is being driven north into the Wheel Hony property. This is a piece of virgin ground which for many years has been held in higher repute by the local mining authorities than any other piece of ground in the district. A few fathoms south of the end there is a payable lode, both in the back and bottom of the tunnel, but at the time of my visit the lode in the extreme end was not sufficiently rich to meet expenses, although it was producing some very rich lumps of silver-lead ore with a fair prospect of an early improvement. From the 103 we climbed to the 88, at a point where the Trevelyan lode enters the Wheel Hony estate. The lode in the forebore of the stopes at the time of my visit was worth for silver-lead ore from 50 ft. to 60 ft. per fathom, and a fair price for properly stoping the ground would be about 30s. per fathom; in fact, the kind of lode that mining men like to report on, as it tells its own tale and requires no comment. From the 103 to within a short distance of the 78, the lode is very regular and well defined, but at the latter level it appears to have diverged from its ordinary course and at the time of my visit the level was in mining parlance—off the lode. A small cross-cut has been driven west, for the purpose of trying to discover the lode in that direction, but hitherto, without any satisfactory result. Judging from the depth of the various small seams of silver-lead ore found in the 78 and other evidence, I am of the opinion that the main lode is east of the level, and although a small trial cross-cut has been put in east since the time of my visit without finding it, I still adhere to my former opinion. That the lode is productive to within a few fathoms of the surface is proved beyond a doubt, inasmuch as beautiful samples of silver-lead were found in the adit just over the rich lode in the 88. The whole of the Wheel Hony is virgin ground, there is ocular evidence of the richness of the lode. The draining of the water from the Trevelyan Mine will enable the managers to attack the lode from various points at the same time, and I must say the shareholders are to be congratulated on their future prospect of dividends, which is simply a matter of time. There are several points in the Trevelyan Mine from which I should like to see a few cross-cuts driven, as I believe they would be attended with abundant results. At surface floors are being laid out for the purpose of cleaning the ore and rendering it marketable, but the great difference in the specific gravity of the ore, and the matrix renders this a very easy matter. The various buildings and workshops throughout the mine are of a very substantial character, the 99-in. cylinder pumping engine, with all its appurtenances, can only be described as magnificent. I doubt if it is possible to engineer a more complete piece of mechanism more than by saying, the engineers are Messrs. Loom and Son, and it has been constructed with their usual care. You have, without doubt, in the Wheel Hony and Trevelyan not only an extensive, but a very valuable property.

Mr. Heslop (Nov. 10), reports:—

Having inspected these mines, both at surface and underground on Nov. 3 and 4, I beg to submit the following observations thereon:—Firstly: The buildings are remarkable for the substantial manner in which they have been erected, and everything at surface presents the appearance of permanency and durability. The engine-house is a fine, solid structure, and in keeping with the "formidable weapon" (the 99-in. engine) which it encloses. The pumping engine is a splendid piece of mechanism, and thoroughly master of its work. It moves with ease and silence, and but for the motion of the huge 50 ton beam, it would not be observed that any such monster was operating at a depth of 108 fms.—Underground Workings: On descending the footway, and passing along the various old workings, &c., to and from the 103 in the Trevelyan part of the property, it was readily to be observed the chief deposits of ore were found in, and taken away from, the vertical portion of the old Trevelyan lode. Another important and noticeable feature in the workings is the absence of cross-cuts to the side of the Trevelyan lode. The old workers appear not to have comprehended the geological reason of the different underlies and perpendicular nature of the true lead-bearing lode, and there are strong evidences of cotemporary lodes forming diagonal junctions with the main ore-bearing vertical lode, and I was much astonished at the absence of trials at these junctions, and would not at all be surprised to find that hundreds of tons of ore have been left by the old workers in the different levels. I would strongly advise judicious cross-cuts being set off, to ascertain the true cause of the remarkable deviation of the lode from a vertical to a synclinal, or oppositely inclined position. There is also another significant fact observable in regard to the slide—losing the lode, and an alteration of the bearing of the levels. The line of dip in the strata is to the east, and the strike of the ore-bearing portion of the lode is nearly at right angles to the dip; the bedding of the various strata I noticed to be regular of occurrence in the levels, hence the true geological position of the lodes may be deduced from this evidence. In opening the 103 considerable unseen work must have been effected, but the present forebore will admit of easy working, and when the men are more acquainted with the use and qualities of dynamite, and have more experience with the boring machines, they will be able to drive the level at a considerably greater speed and at a much less cost.—Maiden Ground: The 103 is rapidly extending into the stratum in which the great course of ore going down below the 78 to the stopes in the 88, over the 103, and will lay open to surface the whole of the maiden ground under the Hony estate for stoping. The course of ore in the 88 stopes, over the present forebore of the 103, is in a vertical portion of the lode and nice samples of silver-lead ore were found in driving the adit level under the field where the lode was intersected, and which is on the same line of bearing as the lodes in the stopes below. This is strong evidence that the lode is vertical to surface, and the probability is, that the course of ore followed down from the 78 into the maiden ground is continuous to surface. The future operations in this part of the mine have no difficulties and there is now a straightforward course for laying out a series of stopes. The lode is opening out in width at the extreme end of the ore ground in the 88 stopes, over the 103, and contains silver-lead ore varying from about 2 to 3 tons per fathom. This part of the lode has every appearance of opening out a large body of ore of considerable value. The quality of the ore is good, and the sample obtained from the 88 stopes contains over 30 per cent. of metallic lead, and about 33 ozs. of silver to the ton of ore. This is, however, much below the average, and as the lode becomes more compact, the amount of silver will increase to about 40 ozs. or 50 ozs. per ton of ore.—Washing Floors: It is advisable to prepare at once the dressing-floors, and in selecting the machinery for cleansing and separating the ores, I would suggest that it be as simple as possible. The matrix of the lode is of such a nature as to admit of easy separation. The lead appears to be deposited in solid masses, and, if carefully broken, the solid pieces may be separated by hand picking, without going through the crushers. I would also suggest that the treatment of the ore should be, as far as practicable, separated in a series of gradations, rather than grind and mix them *en masse*. Any experienced lead-dresser will be able to adapt the necessary modes of cleansing and separation to this class of ore.—Summary: In collecting the evidence obtained from all the available sources connected with the history of the Trevelyan Mines, which produced over 900,000 ft. sterling, and on looking at the present position and prospects of the maiden property under the Hony estate—that the 103 is laying open the rich course of ore which was followed by the old Trevelyan Company into the Hony grounds; that the adit level intersected the lode containing good ore near the surface of the same land; that the stopes in the 88 are in a vertical part of the lode, similar to those from which the great deposits of ore were obtained in the Trevelyan part of the mine; that the ore in the 88 stopes is worth, at least, 50 ft. per fathom; that this great run of ore will soon be ready for stoping

operations on tribute bargains, &c. I see no reason why regular returns of ore should not be maintained, and early dividends paid to the shareholders, arising out of the profits which the stopping of the ore in the virgin ground will afford above the 10s.

Original Correspondence.

CHILE COPPER COMPANY.

SIR.—It may assist your readers in forming an estimate of current profits of the Chile Copper Mines if you can find space for the following figures:—Panulillo and Copiapo have each declared handsome profits on copper prices based upon Valparaiso quotations:—Average, July to December, 1881, \$18.51; January to June, 1882, \$18.74; twelve months July, 1881, to June 1882, \$18.62. The production of these companies has since been realised upon prices based on Valparaiso quotations—July to Nov. 11, 1882, average \$19.17. It may be added that the latest quotation (Nov. 11) was \$18.87; but the decline was amply compensated by improvement in Exchange.—Nov. 24.

EAST WHEAL ROSE MINE.

SIR.—May I, as a Cornishman and an old miner, send you a few words with reference to this grand old mine? I know that in the five years ended 1882 the mine returned ore to the amount of about 477,000L., and averaged about 35 ozs. of silver to the ton of lead ore. I know that in the very year in which it stopped working—1856, I think it was—it returned lead ore to the value of about 65,000L., and 23,280 ozs. of silver. This is sufficient to prove that no falling off occurred in the richness of the mine, but that its stoppage must have been due to the management. I have just returned from the West, and I have it on most excellent authority that within the last few days the famous Middleton's lode (the vein which produced the principal portion of the returns to the old company) has been cut at the 20 fathom level, and, as a miner and mineowner of some experience, I should say that the unwrought ground on this lode will last for the next 40 years. I have no interest in this mine—I wish I had now. I do not hold a single share, and I write this in the interests of the investing public, who, I consider, should not be made the game of "bulls" and "bears." This may be an old-fashioned prejudice, but, still, it is the opinion of A LEAD MINE OWNER.

London, Nov. 24.

Meetings of Public Companies.

DEVON GREAT CONSOLS COMPANY.

The half-yearly general meeting of shareholders was held at the company's offices, Austin Friars, on Thursday.

Mr. PETER WATSON in the chair.

Mr. W. H. ALLEN (the secretary) read the notice convening the meeting, and the statement of accounts, together with the reports of the directors and of the manager at the mines were presented.

The directors submitted a statement of receipts and expenditure for the half-year, from April 30 to Oct. 31, showing that 5591 tons 17 cwt. of copper ore have been sold, realising 10,905L. 13s. 2d., or an average price of 17. 18s. 10d. per ton. The receipts from the contract sales of arsenic amount to 10,337L. 2s. 4d. It will be observed that the above receipts embrace a period of six months, while the expenditure is for the last three months (23 weeks). This is caused by there being thirteen monthly pay days (each of four weeks) in the year; consequently, this half-year has to bear the additional month's cost, amounting to about 3000L., which was paid the last Saturday in October. The accounts show a cash credit balance on Oct. 31 of 1652L. 11s. 7d., against 3037L. 11s. 4d. for the corresponding period of 1881.

The amount of royalty on copper ores and arsenic paid to the Duke of Bedford for the half-year is 1342L. 12s. 10d.; his favourable consideration has again been solicited with respect to the high rate of royalty, but he has refused to make any reduction. Necessary expenditure to a large amount has been made on surface and underground operations, both at Watson's part of the mine and at the arsenic works, all of which has been paid out of revenue. The report of the manager gives a full account of the various operations now in progress. The attention of the shareholders is particularly directed to the concluding paragraph of the report in reference to a most important feature—the discovery of tin ore on the new south lode. Several tons of rich tinstone are now to be seen at surface.

In concluding a detailed report upon the various operations at the mines, Capt. Isaac Richards says:—Having detailed the various points of trial throughout the mines I beg to observe, in conclusion, that although those trials have not been attended with the success we expected and could have wished our prospects still continue most encouraging at various points of operation. At the 127 and 115 ft. level east the lode maintains a good size, and its character is of a most encouraging nature. It continues to yield copper and munda ore of good quality, and in the great length of ground unexplored in this direction we have great hopes that good discoveries will be met with. At the 190, west of the Railway shaft, the lode is of good size—5 to 6 feet wide, and its character is of the finest description, and for several fathoms in length it has been productive of both copper and munda ore, of the former from 1 to 2 tons and from 2 to 3 tons of the latter per fathom, and from present appearances a further improvement may fairly be expected. At Watson's in the 100, at the engine-shaft, the lode is of greater size than in the 88 above; it is now from 4 to 5 ft. wide, containing some very good quality copper and arsenical ores. At the western shaft, in the 20 east, the lode is also of a very promising character, and yields some very good quality copper and arsenical ores. The strata, moreover, is of a most congenial character, and we still have great confidence in the ultimate success of this part of the company's mines.

In looking forward to the future success of the mines it is important that another feature in connection with our general explorations should be specially mentioned. For some time past we have been meeting with specimens of tin ore, raisings from various points, especially on the new south lode, and although it has not yet been found in regular paying quantities several tons of good quality have been selected, and it is more than probable that having, as it has, all the characteristics of a tin-bearing lode, large quantities of this mineral will be found on a further development of the workings in depth. The reserves of copper ore throughout the mines amount to 15,719 tons and munda to 19,000 tons.

The CHAIRMAN said—Gentlemen, the statement of accounts are not so satisfactory as the directors would desire to place before you, but they are the real facts which have taken place during the half-year. I find we have sold 5591 tons of copper ores at the average price of 17. 18s. 10d., as against the previous half-year of 5800 tons, which realised 12,268L., or an average price of 21. 3s. 3d. per ton, which leaves about 200 tons less returns of ore than during the previous half-year. There is a difference of 4s. per ton less in the price of ore than what we received during the previous half-year. That accounts in some measure, and in a very great measure in point of fact, from the returns of copper ore and the difference also in the receipts for ores—in other words, we have received 10,905L. for the half-year, against the previous half-year of 12,268L. The receipts for arsenic have been about the same as in the previous half-year—10,238L. as against 10,802L. The expenditure for the 28 weeks—that is to say, seven months—has been 25,012L. 3s. 11d. As you will observe by the report of the directors, the accounts are for seven months' costs against six months' returns; that is, 13 four-weeks' costs in the year, and in the first half of the year the six months' accounts come, and generally the seven months come at the conclusion; consequently we have considerably over 3000L. charged, as it were, extra in these accounts which have been sent to you. The extra cost was paid only two or three days before the close of these accounts, and we charged up all our liabilities, and pay them monthly, and there are no liabilities of any description current; accordingly the cost-sheet for instance, to-day has come up for a total amount of 3000L., and we draw a check for the amount, and take our discount. (Hear, hear.) The credit cash balance, gentlemen, you will find, on Oct. 31, was 1652L. 11s. 7d., as against 3037L. 11s. 4d. for the corresponding period of 1881, with a loss on the 13 months' working of about 100L. per month. That is 100L. per month less apparently, but in reality it is no such thing. The apparent loss of 100L. per month is accounted for in another way. Independent of the fall of 4s. per ton in the price of ore; we have had in our arsenic works a considerable amount of expenditure, which accounts for the figures I shall give you. We have also had Watson's part of the mine opened, and the sinking of the shafts, and you cannot have that to the credit of the company whilst you go on sinking shafts and developing that part of the mine. These things are paid out of revenue, and I may say that if we had stopped sinking Watson's and the western shafts, and not made improvements in the arsenic works, I do not think we should be in the satisfactory position we are to-day. You are aware of the great difficulties we had to contend with during the severe winter two years ago, which for a long period we could not surmount; but we were determined to do the very best we could in covering in our various works and operations, and spending money judiciously; and if that had not been done, during the weather which we have had, whether wind or rain, we should have had arsenic flying about in all directions, not only wasting the arsenic, but blinding the men, which would be prejudicial to the company. We have spent that money, and are now getting the benefit of that. The next question is, that I find the royalty paid for the half-year to his Grace the Duke of Bedford has been 1342L. 12s. 10d. The shareholders, from time to time, urged upon the directors the importance of getting a reduction of the royalty, and we made an application to the Duke of Bedford, not for the first time or the second time, but, I think, for the third time since I have been in office, and I am sorry to say, without any effect at all on his Grace. I will read a letter which the directors desire me to bring before the shareholders, and which has already been mentioned in the report. We made an application to his Grace for the reduc-

tion of the royalty, and we have received the following letter (Ser. 2) from Mr. Rundle, as representing his Grace the Duke of Bedford, at Tavistock.

DEAR SIR.—The purpose of our recent interview has been communicated to the Duke of Bedford by Mr. Wing, and I am directed by his Grace to express his regret that he is unable to assist in the manner indicated by you. His Grace readily acquiesces in the wish of your directors to abandon the workings on the north lodes as proposed.—E. RUNDLE.

Well, gentlemen, I am very sorry indeed that his Grace would not give us assistance. It was not only that we asked him in connection with the reduction of royalty, but we also drew attention to the great expenditure which we had gone to and paid out of revenue, and also expenditure for rock-drills. In other mining companies I am pleased to know the lords give assistance, not only in the reduction of royalty, but also in assisting in the introduction of rock-drills. I am sorry to think his Grace the Duke of Bedford, after the enormous amount of royalties paid to him from time to time, should have refused to give assistance to the company at this time. (Hear, hear.) I think we have paid his Grace altogether 257,000L., and when we renewed the lease some time ago we had to pay 20,000L. for the renewal of the lease. There had been an enormous outlay also for the sinking of Richards' shaft in the hope of finding tin.

Mr. RICHARDSON said he believed that some time ago there was a reduction in the royalty.

The CHAIRMAN: At the time of the renewal of the lease some years ago there was a reduction to 1-18th, which is what we are now paying. We have to compete now with a very different state of things to what existed in former times. We have the Chilli charters coming in, and the labour question is also one of vital importance to this mine and other undertakings, therefore I would say to the lords of the soil that we have to pay for land which is not worth above 5L., 10L., or 20L. per acre a heavy land damage of 100L. per acre. I may tell you that this question of royalty on mineral is one which is taking very deep root, and there is a strong feeling in Devon and Cornwall and the various counties that something must be done to relieve the mining interest, precisely the same as with respect to the farming interests. The Duke of Bedford has been very liberal to some of the farmers, and granted, almost unasked for, a reduction of rents. There is no interest, and I say that truly, there is no interest in this country which is more important than the industries in copper, lead, and tin, and something must be done, and will be done. And I may state, so far as I am concerned, and I speak to the shareholders who are absent as well as present, I will do my utmost in the matter. (Cheers.) We are spending enormous sums of money from time to time out of the pockets of the shareholders of various mines, and if the concern turns out well it is all right for them, but if it does not it comes hard on those who have to bear the expenditure still going on. We want to encourage our important industries, and there are none larger or more important than the mineral resources of this country. What should we do without the mineral resources of this country? They have been the making of this country, and the source of its great prosperity. (Cheers.) However, gentlemen, I am somewhat diverging from the Devon Consols, but it is only right that I should lay this question of royalty before you. With regard to this expenditure at the Watson's part of the mine, we have gone on for some considerable time. We had hoped, according to the indications, that we should have had something better to report to you than we have for the last six months; but I am very happy to tell you that whereas we had a lode 2 to 2½ ft. wide, we have got it now about 4 to 5 ft. wide. We have here a specimen of ore which Capt. Richards has brought up from the 100 ft. level. It is opened from 2 to 2½ ft. wide to 4 and 5 feet wide, and he will tell you more about it when I sit down. I am pleased to think it looks so well going west towards the great cross-course, which made all the difference in former years, and I hope we will have the same effect in the direction in which we are going. We are working at only a depth of 20 fms., and here is a stone of ore which Capt. Richards has brought out of the 20. I may tell you that we are sinking with the object of getting down 15 fms. below where we are now. We have about 10 fms. more to sink, and Capt. Richards hopes to see the lode at the 35 ft. level about the meeting in May next. According to the indications he is very sanguine about meeting with a good body of ore. The report of the manager sets forth the position of the mine, and it is for you to ask any questions upon it. But I must call your attention, and your special attention, to an important feature which has come before us very strongly during the past few weeks. The directors have been down to the mine, and were pleased to find great blocks, I may say, of rich tinstuff on the mine at surface. These have been picked out from time to time in the lode, which shows there must be a great body of tin where these stones are, from time to time, picked out, so it is impossible to say what we may not get at a greater depth. It is what they call tin capely lode. We all know, as I said at the last meeting, that the mine has been as poor as a church mouse as compared with what it was in former times, but we have expected some practical tin mine manager down to inspect it between this and the next meeting. (Hear, hear.) The directors have visited the mine. I have been down two or three times only recently, and I made it my business to go and see a mine in which I am a large shareholder in the West of Cornwall, near the Carn Bre granite hill, at a similar distance, or, rather, Devon Consols is nearer to the granite formation than this other mine is, where they are getting now 20 to 25 tons of tin per month. I need hardly tell you that if we could get out of Devon Great Consols 20 to 25 tons of tin per month, or 1500L. per month, it would be a very important thing for us. I believe our policy would be to sink two shafts, and to leave the copper-bearing measures and get down to the tin-bearing measures, in the same way that Dolcoath and Crook's Kitchen have done in the mines nearer the granite formation all round Carn Bre Hill. It is for the shareholders to consider whether they will go to the expense of sinking a shaft and getting under them. I think it would be the best policy to sink a shaft to get into this tin ground. These tin slabs are coming out from the side of the levels, and are what, in mining phraseology, are called "spews," or upheavals from the deeper and more profitable tin-bearing measures underneath. My impression is that these stones which Capt. Richards brings you are specimens, and if you go to the mine you will see slabs as rich as these. This is as good a stone of tin as any in Dolcoath or any mine in the West of England. There it is, and it is for us to endeavour to find it. That is my opinion, but it is for you, as shareholders, to say whether you will sink deeper and try these various places. My suggestion to you is that it should be done. (Hear, hear.) We had hoped that copper would have been better in price. We have had this low price of copper—reduction of 4s. per ton on our sales, which is a very important item. We had hoped that the Electric Lighting Companies would have done something for us in connection with the demand for copper; perhaps it has in some measure, but not to the extent we hoped it would have done. That is all, gentlemen, I can mention to you at present. I move that the report of the directors now read, with the statement of accounts, and also the printed report of the agent which has been circulated amongst the members, be received, adopted, and entered upon the minutes of this day's proceedings.

The Right Hon. Lord CLAUD HAMILTON seconded the motion.

Mr. WITT said he objected to income tax being charged on the directors' fees, and that the auditor for neglected his duty in passing it.

The CHAIRMAN said there need be no discussion on that point. The directors' remuneration was voted free of income tax.

Mr. G. P. WITT said that at these meetings favourable hopes were held out which did not seem to be realised, and he thought that some fault must be attributable to the managers at the mine.

Capt. RICHARDS said the indications had been good, and still continued good, but of course they must drive through the ground in order to prove it. He believed now, as he did at the last meeting, that there was a good future before the mine. (Hear, hear.)

Mr. WITT asked whether two shafts had not been abandoned?—The CHAIRMAN said two shafts had been suspended, but two others were being driven, which were costing about 100L. per month. In mining, as all practical men knew, it was absolutely necessary to expend money in sinking shafts and driving levels in order to make discoveries. (Hear, hear.)

Mr. WITT thought it would be more satisfactory to the shareholders if there was an independent inspection of the mine, and he moved, as an amendment—"That a committee of not less than three, and not more than five, shareholders be appointed to investigate the affairs of the company, and to call themselves in if necessary of the services of a skilled mining engineer to advise them, and to make a report, which shall be sent to the shareholders within a period of eight weeks from this date, and that this meeting be adjourned until such report is made." He gave the directors credit for the best intentions, but he thought they had failed, and that it was time for the shareholders to look into the matter.—Mr. COTTON seconded the motion.

Mr. M. BAWDEN, in reply to a question, said the lease had about 11 more years to run.

The CHAIRMAN said that Mr. Witt held 29 shares, and Mr. Cotton 23, but they had a perfect right to say what they liked with regard to the management; but they must show that they had a practical acquaintance with mining, which Mr. Witt had not done. He had already explained that the present accounts contained seven months' working, against six months' returns, and he ought to tell the shareholders that the expenditure, which had been increased, had been for the permanent benefit of the company. The directors had made every possible effort to reduce the expenditure, and had been down to the mine and gone through the expenditure list by connection with it, he had a body of men to do more than had been done in that direction. (Hear, hear.) He told them six months ago that the following two months' sales of ore would be poor; and, in fact, they were almost the worst they had for some time. The next two months would be better. One sale had gone off, and the other took place to-day, and he hoped the profit for the two months would be as much as that two months as the loss on the previous six or seven months, but that to a great extent would depend upon the sale to-day. He believed that in the next four months they would make up for what they had lost in the past six months. He reminded the shareholders of the very greatly improved position of the mine now as compared with what it was when he took it in hand, and expressed his belief that the prospects of the mine for the future were better than during the time he had been connected with it. It was a gigantic undertaking, or rather series of undertakings, and required energy and pluck to deal with it. He took it in hand when it was low water mark, and had one time pledged himself to the bankers for 7000L., and he hoped to live to see the company in a state of great prosperity. (Cheers.) The directors would have no objection to bringing two of the best men in Cornwall to inspect the mine, and, indeed, he stated at the outset of the meeting that the board intended to send a competent tin miner to inspect the mine, and, therefore, it seemed that this would answer the object which Mr. Witt had in view. The directors could not, after the most careful consideration, recommend the stoppage of any portion of the mine. (Hear, hear.)

Mr. RICHARDSON said the amendment did not convey any want of confidence in the directors, but in their judgment.

Lord CLAUD HAMILTON corroborated the statement of the Chairman as to the state of the mine, and said that the affairs were conducted well. The directors had tried all they could to introduce greater economy. He could only say that the board would be delighted for some first-class expert to inspect the mine, and, indeed, the Chairman had already said it was the intention of the directors to have such an inspection. (Cheers.)

Mr. MOSES BAWDEN said that if Mr. Witt would visit the mine he would be

satisfied with what was being done. With regard to the abandonment of the shaft, there had been no abandonment, but a suspension. He considered the two shafts should be sunk immediately, in order to get the returns from the mine. During the past six months they had driven 132 fms., and sinking in the shaft 15 fms. From the driving of those levels they had had no important discoveries, and, indeed, there had been no important discoveries in the mine for the last two years. When he became associated with the mine three years ago it was a question of making a call of 12. per share, but since that time they had divided 17,500L. amongst the shareholders. It was not for him to say anything regarding the dividing of that money, but if they had divided it at the rate of 5000L. a year the shareholders would have been satisfied with the mine, and have given the directors credit for what had been done. (Hear, hear.) But the money had been divided, and now reflections were made upon the directors because it was not continued. He contended that, seeing that the arsenic was disseminated through the stones, the right policy had been pursued in passing the copper ore through the furnaces before it was sold to the smelters. Everything connected with the expenses was watched as closely as possible. The costs had been reduced wherever possible.

The CHAIRMAN said a telegram had just been received, and it stated that the sales of ore were 200L. better than anticipated. The two sales had amounted to 4800L. for the first two months, as against 2276L. in the corresponding two months in the previous year. (Hear, hear.)

A SHAREHOLDER: How much better price is that?—The CHAIRMAN: The price is 21. 4s. per ton.

A SHAREHOLDER asked whether the new railway would pass through the property, and be of benefit to it?—The CHAIRMAN said it would pass through the property, and there would be a station in the centre of the mine, which would no doubt be beneficial in connection with the transport of materials, &c. Probably in cutting the railway they might also come upon some of the lodes, which would also be an advantage.

Two or three shareholders appealed to Mr. Witt to withdraw his amendment, but he declined to do so.

The amendment was then put and lost, 6 voting in favour of it, and 16 against it. The original resolution for the adoption of the report and accounts, &c., was then put and carried, 19 voting in favour of it, and 5 against it.

A vote of thanks to the Chairman and directors closed the proceedings.

KIT HILL GREAT CONSOLS

The ordinary general meeting of shareholders was held at the offices, Austin Friars, on Thursday.

The Right Hon. Lord CLAUD HAMILTON (the chairman of the company) presiding.

Mr. W. H. ALLEN (the secretary) read the notice convening the meeting. The reports and accounts were taken as read.

The CHAIRMAN said the directors had endeavoured in the reports which had been circulated amongst the shareholders to give them as full an account as possible of the operations which were in progress at the property. The whole of the works had been proceeded with in a manner which was most satisfactory. The machinery, of which a list would be found in the report of the local manager, had all been erected in a most excellent and efficient manner, and the directors who had recently visited the property, were highly pleased with the way in which the work had been conducted. Owing to the peculiar conformation of the ground in which the tunnel had been driven, it had been a matter of great difficulty, which the tunnel was being driven. He was happy to say, however, that there had been no sort of accident to the men engaged or to the machinery. The whole of the works had been carried out with great skill, and the firm basis upon which the machinery had been placed and the general workmanlike manner in which the arrangements had been executed would, he was sure, elicit the approbation of all those shareholders who would take the trouble to visit the property. They would also be satisfied that the money had been well spent, and that everything which, science, skill, and attention could contribute had been devoted to the bringing about of the present condition of their property. The shareholders were, of course, aware that this granite property consisted of a large hill, which they were attacking from below by means of a tunnel and at the top of the hill by a shaft. They were thus operating on both ends of their property at the same time, and in both places as far as they had gone there was every reason to hope that the promises originally held out would be fully realised. They were coming on some most valuable mineral products, and although at the present time they were only going through dead work, they had already raised a considerable amount of valuable marketable produce, and those who had visited the property had expressed much satisfaction with the appearance it presented, and also with the progress which had been made in developing it. Having mentioned that either the London manager, the local manager, or the agent would be happy to reply to any questions which might be put, the Chairman moved the adoption of the report and accounts.

Mr. H. WILSON, in seconding the motion, remarked that the operations in which they were engaged were of such a character that they could not expect to have everything done in a few days. There was, undoubtedly, an enormous amount of mineral wealth in the property, but the shareholders must have patience, and they would have good results. He had the utmost confidence in the local management and its executive.

Mr. M. BAWDEN, in reply to a question, said that plans of the property were now in course of preparation. The tunnel was being driven into the hill at a point from which the stuff could be conveniently and profitably returned, while the tunnel would obviate the heavy pumping and drawing expenses which would be necessary if they were simply developing the property by means of a shaft. The intention was to lay down a double set of tram lines in the tunnel, and to lay by means of an endless wire-rope, so that the men would not have to take the stuff to and fro. By this means the company could bring out 1000 tons of stuff per day just as easily as they could 100 tons. He had no hesitation in saying that such a piece of mining had not been started in the district this century, and he had such faith in the property that he believed they would shortly have a very profitable mine. The property contained many known lodes. The Holmbush lodes, which had been worked upon for generations, all passed through the property, and there were other lodes in it of perhaps equal value. Already they had a considerable amount of tinstuff at surface, and it was for the directors to consider whether they should at once erect stamps to treat this tinstuff or wait a little longer.

Mr. C. RICHARDSON: How much stuff have you at surface?—Mr. BAWDEN: I should say from 300L. to 400L. Mr. Bawden added that since the last meeting they had driven 54 fathoms odd, at 10L. per fathom. They were working from a deep ravine, and they would have about 40 fathoms falling in in their own set. He had no doubt that in the course of a few years the valley would be teeming with works.

Mr. RICHARDSON: Have you found any of the known lodes?—Mr. BAWDEN: Yes, but it is a shallow depth; but it is a shallow depth, and we are not working on the lode, as we are anxious to push on with the tunnel as fast as possible. We expect to get another lode in the course of 30 or 40 fathoms more driving.

A SHAREHOLDER: How many men have you employed?—Mr. BAWDEN: Twelve in the end, and between 40 and 50 under ground altogether.

A SHAREHOLDER: With reference to the stamping power, what would be the cost of the necessary machinery?—Mr. BAWDEN: That would depend entirely upon what scale you commence your works. We have not prepared any statement as to the stamps, and I should rather think myself that it would be better to get a much larger quantity of tinstuff at surface before making any of it marketable.—Capt. RICHARDS had no doubt that they would get a good deal of tin in a very short time. As to the lode met with in the tunnel, there was not at present sufficient tin in it to value; but it was a very fine-looking lode, and they had raised from it some large stones of tin. He had no doubt that they would have plenty of tin in depth, but he would not recommend the erection of stamps until they had more tin at surface. At present, they had ready for treatment about 3 tons of tinstone, which was worth about 60L. a ton.

Mr. BAWDEN said that some years to drive through, but he believed they would be making large returns long before the tunnel is completed. If this were not his opinion he would not hold so many shares as he did. He had never sold a share, nor did he intend to do so, at all events until they reached a much higher figure than they were now quoted at.

Mr. PETER WATSON (London manager) said the cash account showed that they had a credit balance of 1241L. 4s. 3d. The directors had nothing to regret in commencing the tunnel; on the contrary, they were very pleased indeed—as those shareholders who had visited the property had been—to think that in the short time which had elapsed since the incorporation of the company so much had been done. Operations were only commenced in July last year, and since then they had driven 117 fathoms, a rate of progress of tinstuff which would challenge comparison with any mine in Devon or Cornwall, or indeed anywhere else. Mr. Bawden had already stated that they had intersected one lode, and the adit was being driven to cut the lodes which were known to traverse the property. In the past six months they had driven about 54 fathoms with rock-drills, and they had met with the junction of the lode between the kills and the granite formation, which was a very satisfactory feature in their prospects. In cutting that lode they did not expect to get tin, because, comparatively speaking, the lode was met with at very shallow depth. Their intention was to develop the mine in depth, the deeper mines in West Cornwall being the most productive. This would of course take time, but he, as perhaps the largest shareholder in the mine, was quite content to wait, believing in the future of the property. He held between 1500 and 2000 shares, and he was picking them up whenever he could. They had got a good deal of tin ground in reserve, and if they had stamping power they could, even now, return several tons of tin a month, which would, at all events, materially assist in defraying the costs. There was one matter which he wished to mention to the shareholders in perfect frankness. He had secured a property adjoining Kit Hill, to which he wished to refer. He saw this property and was so much pleased with it that he negotiated for its purchase, and ultimately secured it for 1500L., with the view of offering it to the Kit Hill shareholders if they chose to accept it. It contained, there was no doubt, the same lodes as would be found in Kit Hill, and as their property was developed the mine which he had purchased—East Kit Hill—would become much more valuable. East Kit Hill previously belonged to the original owner of the Kit Hill property, and had been developed to a considerable extent. The engine, stamps, and all the appliances were on the mine, and his idea was that these could be utilised for the present in making marketable the tinstuff raised at Kit Hill. The machinery could be put in order in a month or two for a comparatively small sum, whereas the erection of stamps at Kit Hill would involve a large outlay. The directors had power to purchase the property from him; but he felt it his bounden duty to lay the facts before the shareholders. He simply asked for the property the 1500L. he had paid for it, with a fair rate of interest for the 12 months or so that his capital had been lying dormant, and the expenses of the conveyance, &c. He was, he believed, the largest shareholder in the company, and he would not recommend the purchase unless he thought it would be to the advantage of the shareholders to acquire the property. It was a matter for their consideration and that of the directors; but he believed that, when it became necessary to erect stamps at Kit Hill, they would easily find a purchaser for East Kit Hill, if they did not wish to work both properties themselves. If they determined to buy this mine, he believed that before the next meeting they would be able to return a good deal of tin.

A SHAREHOLDER asked whether the machinery at East Kit Hill was in good order?—Mr. BROWN replied that the machinery had been lying dormant for some four or five years, and had doubtless deteriorated. It would require repairing; but it was anything but worn out machinery. The machinery had power enough to drive stamps for all the tin they could raise for some years. There were 12 heads of stamps, and he thought that for about 2000, or 3000, these and the rest of the additional stamps could be put into good order. At one time East Kit Hill machinery was sold for about 30000, and there was no doubt that it was a valuable property.

Mr. BROWN, a shareholder, who has recently visited the property, said he had found everything progressing in a most satisfactory manner, and he had been much pleased with all he saw there.

Mr. WATSON also read an extract from a letter he had received from a gentleman occupying a very high position in Cornwall, stating that the writer was at Kit Hill the week before last, and found that the work was being carried out on a fine bold scale, and afforded a pattern for all practical mining men. He looked forward to seeing a great mine opened up at no distant period.

The motion for the adoption of the report and accounts was then put and carried.

A SHAREHOLDER asked when it was intended to make the next call?—Mr. WATSON replied that they would require to make the next call for another month or two. They would probably call up 2s. 6d. a share or more.

On the proposition that 20 guineas should be voted to the auditors, to be equally divided, an amendment was moved, seconded, and carried fixing the amount at 10 guineas.

An informal discussion ensued with regard to the number of directors and the expenses of the company, a SHAREHOLDER suggesting that three directors would be sufficient.

A vote of thanks having been passed to the Chairman and directors, the proceedings were brought to a close.

WHEEL GRENVILLE MINING COMPANY.

The ordinary general meeting of shareholders was held yesterday at the offices, Union-Court, Old Broad-street, M. R. W. GOULD in the chair.

The notice convening the meeting having been read, the agent's report and the statement of accounts were taken as read. The accounts showed that the sales of tin during the 12 weeks had amounted to 65 tons 17 cwt. 1 qr. 21 lbs., realising 41967. 12s. 5d. The cash balance in hand amounted to 3727. 7s. 6d.

The CHAIRMAN said that at the last meeting he made the statement that during the previous four months nothing sensational or unusual had occurred at Wheel Grenville. He was sorry to say, and the shareholders would be sorry to hear, that he was not able to make the same statement with regard to the past three months, for something extremely novel and unusual had occurred at the mine which had temporarily suspended the dividend. It would be seen from the statement of accounts that only 65 tons of tin had been returned during the three months. At the time of the last meeting it was fully expected that they would sell at the very least 90 tons in the three months; but, unhappily, about the middle of the quarter, they had one of those circumstances take place at the mine which would now and again take place in the best regulated properties, and which no foresight could possibly prevent. There had been a breakdown of the large axle which totally stopped all stamping operations, and, of course, for the time being, stopped the returns of tin. Through the praiseworthy foresight of their manager, Capt. Hodge, this accident need not have occupied in repairing more than four, or at the most, five days, for noticing some symptoms with regard to the axle some months before he very fortunately ordered a new one, and had it on the mine ready in case of any accident. If the new axle had been put in at once the balance would certainly have been larger than it was; but their agent as he (the Chairman) thought very prudently and very judiciously, saw that the stoppage for four or five days, caused by the breakdown of the axle, afforded him the best possible opportunity of overhauling the whole battery of stamps, and putting them in the best possible order. He had not been done for five years, and although in the interval some new stamps had been added, the overhauling was becoming very necessary. This had been done, and so far as human foresight could do the chances of another breakdown had been averted for a long time to come. These operations had occupied nearly a fortnight. Added to this, the weather for another period of the time had been really so atrocious as to interfere very considerably with surface operations. There was another circumstance which had militated against them, which some people at first might take to be more serious than the other two, but which he did not regard in that light. This was that one or two of the best stopes going upwards had somewhat fallen off in value. In Wheel Grenville they worked the mine as it should be worked, and not as some mines in Cornwall were worked; that is to say, the stopes were driven upwards from the levels and not downwards. It would be remembered that from time to time the valuation of the levels in Wheel Grenville had exhibited wide differences—from 8s. to 20s., and from 15s. to 30s., and even 40s. to the fathom. These differences in the valuation, of course, showed that the lode was more valuable at one level than another. From the 16s up to the 150 there were two stopes which had yielded tinstone giving a percentage of 3 and 3½ of tin, but as they approached the 150 these stopes had fallen off to a percentage of 1½, or a trifle less. There was, however, nothing in this circumstance to discourage them, it simply added additional proof that the mine improved as it became deeper, and there was reason to expect it would continue to do so. It must not be forgotten that they had only one year emerged from the clouds and difficulties which they had been under in the four previous years, and that during the year they had paid four dividends, equal in the aggregate to 1s. per share. He did not think four mines could be pointed to in Cornwall that had done better than that, having regard to the present market value of Wheel Grenville shares, and he was proud to be able to think that, notwithstanding the little temporary suspension of dividend, the prospects of the mine were never better than at the present time. Going eastward, and in depth, the property seemed to be improving. During the past quarter they had pushed on with the operation of sinking the shaft as rapidly as possible, and he hoped that by the time of the next meeting they would have something to say with regard to the value of the lode in the 200, and he believed it would be even richer in quality than it had ever been before. He felt that their position was more assured than it had ever been, and their future would give them every reason to be proud of their connection with the mine. (Hear, hear.) They would, however, have to consider the expediency of increasing the stamping power and the means of drawing the stuff. They had an abundance of reserves for years to come, and until these defects were remedied the levels were not being driven as rapidly as they might be, for there was no use in so largely increasing the reserves if they could not take them away. Another matter for consideration was the development of the eastern portion of the property—the East Grenville sett. There was no doubt that if they had better stamping and drawing power they could, he believed, at once increase the returns by one-third, and he hoped the shareholders would consider the matter carefully. He (the Chairman) then moved the adoption of the statement of accounts and agent's report.

Mr. W. H. BUMPUS seconded the motion, which was carried unanimously, and without discussion.

Mr. F. LANE referred to the great importance of increasing the returns, and said he thought the time had arrived for carefully considering whether they should not take steps to develop the East Grenville portion of the property, upon which so large an amount of money had been spent. The most easterly levels in Wheel Grenville were the richest, and they were now almost under the perpendicular of the old East Grenville shaft. They would never derive any benefit from that shaft unless they took early steps to develop the mine from that point. They would have to erect machinery, unwater the shaft, and sink perhaps 20 or 30 fathoms to intersect their present main lode. There was no doubt of the richness of the mine, coming, as it did, between the richest parts of Wheel Grenville and South Frances, which was becoming more valuable as its levels approached East Grenville. He moved that the time had arrived when the committee should take into their serious consideration the question of the opening up of the East Grenville portion of the property, and with the view of better ascertaining from the mine agents and other authorities the best means of effecting this suggested that the next meeting or the succeeding one should be held on the mine.

Mr. RAWLINS (Harvey and Co.), in seconding the motion, said his firm would do everything they could to assist the adventurers in developing the East Grenville sett.

In the course of the conversation which followed, the CHAIRMAN pointed out that the opening up of East Grenville must necessarily involve a large outlay, and it would be a matter for careful consideration how those means could best be provided—whether by working the sett separately, or by stopping Wheel Grenville dividends, and making calls for a time.

The motion was carried, and the meeting closed with a vote of thanks to the Chairman and the committee of management.

PELYN WOOD.—At the meeting on Tuesday (Mr. John Corner in the chair) the accounts showed a credit balance of 527. 18s. The mine costs and merchants' bills for the five months were 2617. 14s. 4d.; there were no returns. A call of 9d. per share was made. Capt. C. Thomas, who has specially inspected the mine, considers there are sufficient grounds for recommending further trial, and that the necessary work could be done for 5000. Capt. T. H. Bennett, in concluding his report, says—I recommend, however, stripping down the side of the level in places where the lode has made larger than the size required for our level, but I have no hesitation in stating our hope for success is in prosecuting the main drive southward, and at the same time coasting ahead to the extremity of the sett, and open on those lodes that have been seen in costean pits in the adjoining property which presented a fair prospect, yielding good stones of goossan and ore. To proceed with this work judiciously a small shaft (say) 7 ft. by 3½ ft., should be sunk forthwith on the easterly lode, and just above or beyond the present end, which will cost about 550, or perhaps 600; this would save in the expense of driving from 10s. to 15s. per fathom. The character of the easterly lode and the strata through which we are passing is as good as need be, and immediately we intersect a strong east and west lode in this drive south I entertain a very strong opinion that we should quickly open a productive and valuable property.

PELON-ANDREA—RESIGNATION OF THE MANAGER.—A meeting of shareholders was held on Wednesday (Mr. R. Teague in the chair). The accounts showed labour costs, 34227. 12s. 5d.; merchants' bills, 19767. 12s. 5d.—53 tons—31897. Loss on the four months' working, 24907. The present balance against the mine was 27197. A call was made of 9s. per share. Regret was expressed at the manager, Capt. Rosewarne, retiring from Pelon-andrea in consequence of Wheel Sisters management demanding all his time and attention, and the best thanks of the adventurers were tendered to him for past services. The report gave valuations amounting in the aggregate to 900. per fathom.—West Briton.

PIONEER MINING COMPANY.—Mr. William Waddell has been appointed receiver of the property belonging to the debenture-holders.

The directors of the Mulberry Tin Works have declared an interim dividend at the rate of 10 per cent. per annum for the quarter ending Sept. 30.

THE CELEBRATED MIDDLETON'S LODGE CUT. EAST WHEEL ROSE MINE, LIMITED.

The following TELEGRAM is just to hand:—"Middleton's lodge cut at 20 fm. level, same splendid appearance as in old mine. Stands whole from surface 150 fms. deep and half a mile long. Success of Mine now certain."

This is sure to send the Shares to

SOME POUNDS EACH.

Dealings on the Stock Exchange are taking place at rapidly improving prices.

From the same length on this lode, in the old part of the Mine,

£1,000,000

Worth of ore has been cut.

The present discovery will no doubt produce another
£1,000,000 WORTH.

The Shares on this discovery are rapidly rising, and must

DOUBLE IN PRICE AT ONCE.

THEY WILL PROBABLY REACH

FIVE POUNDS EACH SHORTLY.

WE RECOMMEND THEIR IMMEDIATE PURCHASE.

The Shares are fully paid £1 each, and are free from further liability.

SPECIAL.—We are prepared to give for the "CALL" of these Shares for delivery, at any fixed time from two to twelve months, considerably higher prices than those now ruling.

We are Buyers for Cash or the account at the best market prices of the day.

Full description in our Mid-November Circular, now ready, and post free.

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FOREIGN MINES.

ALMADA AND TIRITO CONSOLIDATED SILVER.—J. H. Clemen, Oct. 14: Mine: We are stopping at the north extension of the eastern block, referred to last week, and now have the 30 stamps running day and night. The short stop in foot of rise in Clemen's cross-cut continues to yield good ore—Beneficio: The furnaces have been run with ore shovelled from the stamps' banks to the mechanical dryer, the lack of labourers having left us very short of stamped ore. This method has a great many inconveniences; the ore must have time to drain, and we have stopped all the roasting furnaces, until we shall have accumulated a pile of, say, 200 tons of stamped ore. We hope to start two furnaces on Monday.

—Oct. 19: Mine: We are pushing the stopes at foot of upraise in Clemen's cross-cut; the south and west side continue to look well. We are also preparing to rise in the eastern section of main chamber.—Mill: 22 stamps are running, and eight are under repair. We are forming a stock of stamped ore as fast as possible. One furnace is roasting, and we shall start another in a day or two if we obtain labourers.

—Telegraph—Clemen, Nov. 6: We have remitted you bullion \$15,000. CALIFORNIA GOLD.—Mr. Alfred Rickard, Oct. 28: 1300 ft. level, east of shaft, is in 185 ft., yielding from 2 to 3 tons of fair grade milling ore per fathom; lode irregular. In the 1300 ft. level stopes the lode is smaller. The 1300 ft. level, west of shaft, is in 190 ft.; continues to run in a regular well-defined lode of promising aspect. The 1300 ft. level rise up 32½ ft., with 1200 ft. level winze down 64 ft., making a total distance of 96½ ft.; communication is thus effected between the 1200 and 1300 ft. levels by these works at 150 ft. from shaft. The ore ground opened by the same is valued at from 4½ to 5 tons of fair grade milling ore per fathom. The stopes will now be started on its course, and developed *pro rata* of the advancement of the drift. The 1200 ft. level, west of shaft, is in 380 ft., yielding 6 tons of good grade milling ore and ½ ton of smelting ore per fathom; lode 2½ ft. wide, and opening out most satisfactorily. There is some probability of this being a new body of mineral. The 1200 ft. level stopes, east of winze, are yielding satisfactorily, and putting out 7 tons of milling ore and ½ ton of smelting ore per fathom. There is 30 ft. of whole ground standing between them and the old stopes in foot of the 1100 ft. level. The 1100 ft. level is in 183 ft.; the lode continues to yield 1½ ton of good mineral per fathom. The stopes started in the back of this level have not resulted as well as anticipated; the dip of the ore being westward, the drift must be advanced further into it to supply backs for stoping. The 1100 ft. level, west of shaft, is in 282 ft. A decided improvement has occurred in the end, and a rise just started 78 ft. east has discovered quite a body of ore in the back; we anticipate the discovery of considerable stoping ground in this place. The machinery is working very satisfactorily.

—The directors have received the following telegram from Mr. Rickard, dated 22nd inst.:—"Mill run (twelfth week), 284 tons; net value, \$3000 (6000)."

CANADIAN COPPER AND SULPHUR.—Francis Bennetts, Nov. 10: There is no important change in any of the mines to report. The 50, east of No. 5 shaft, continues to look well.

CAPE COPPER.—Ookiep—Capt. Henwood, Sept. 30: The ground in the 105, east of New shaft, looks a little more congenial for copper ore. The sinking of No. 48 winze below the 92 has been suspended in consequence of a great influx of water, and the men are put to resume the driving of the 92, east of New shaft. The 92 cross-cut, east of north level, has fallen off in value, at present it produces only a few stones of copper ore. The ground in the 92, north-east of No. 45 winze, is composed of iron quartz and copper ore, the latter not in sufficient quantities to value. The stopes in back of 92, north and south of No. 36 winze produce 6 tons of copper ore per fathom, and the one in back of same level, north-east of No. 23 winze, is worth 3 tons. No. 47 winze, sinking below the 65, which was started a few days ago, is situated about 16 fms. north-east of No. 19 winze; present bottom is worth 5 tons of copper ore per fathom. The ground in the 65, north of No. 39 winze has become hard and spare for driving and not very favourable for copper; it has been suspended. The stopes in the 80 and upper levels show a little fluctuation at times, but, on the whole, they yield remarkably well.

SPECTAKEL.—Capt. Henwood, Sept. 25: The stopes in bottom of 75 is still worth about 1½ ton of copper ore per fathom. Nothing of importance has yet been met with in the 75, south-east from winze; the ground is hard and spare for driving. The 75 cross-cut, north-east from winze, has not undergone any change to notice since last report. The stopes in the 75, north-west from incline is worth 1 ton of copper ore per fathom. The stopes in the bottom of the 64 produce 2 tons of copper ore per fathom. The stopes in 64, and one in bottom of 53, are worth 3½ tons of copper ore per fathom.

TRIAL MINES.—Capt. Henwood, Sept. 30: The ground in the 40, east from winze continues to look kindly for copper ore; all other points of operation are without change.—AREAS: Good progress has been made in sinking the trial shaft, which has now attained a depth of 10 fms. on the underlie; the ground in bottom of shaft has a very kindly appearance, and has during the month produced a few good stones of a yellow and purple ore.—Returns: For September, Ookiep, 1200 tons of 28 per cent.; Spectakel, 144 tons of 39 per cent.—Bills of Lading Received: 520 tons per San Jose; 435 tons per L'Esperance; 685 tons per Golconda, and 465 tons per S.T.—Arrivals at Swans: The Illimani, and Marquis of Worcester.—Arrivals at Port Nolloth: The Empress and Hinda.—Sale of Ore: 450 tons at 14s. per unit.

COLORADO UNITED.—The directors have received the following advice from Mr. W. A. Hamill, managing director in Colorado, dated 2nd inst.: "About a week ago we cut a lode with the West Terrible Tunnel, the ore of which is from 18 to 24 in. in width, interspersed with small seams of exceedingly rich ore. We are now well across the lode with the tunnel, and on Monday next, the 11th inst., I intend to commence driving easterly and westerly on the lode, and

"I have found DR. LOCOCK'S PULMONIC WAFERS to give immediate relief to myself, my wife, and children, in coughs, difficulty of breathing, and affections of the lungs, for some years, and witnessed their good effects on my friends who were asthmatic. I have great pleasure in recommending their use." The above is from G. M. Tweddell, Esq., F.R.S., F.S.A., Stokesley, Yorkshire. Dr. Locock's wafers rapidly cure asthma, consumption, disorders of the lungs, and all bronchial affections, colds, rheumatism, and all nervous complaints, and taste pleasantly. Sold by all druggists at 1s. 11d., and 2s. 9d. per box.

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Mining Correspondence.

BRITISH MINES.

BLUE HILLS.—S. Bennetts, R. Harris, Nov. 22: The winze below the 80 on the Pink lode is worth 18s. per fathom. In the 80 east end the lode is producing a good quality stuff. In the 60 east end the lode is 15 ft. wide, of a very promising kind, composed of chlorite, copper, blende, and ironstone. On the Baldie lode the shaft below the 40 is worth 6s. per fathom. The 40 east end is worth 7s. per fathom. Elsewhere there is no change to report.

IRADA.—R. Rowe, Nov. 22: In Prior's level we have had to cross-cut in the eastern part of the lode to prove it, but up to the present we are not through it; what we have gone through contains nice ore, and we hope in a day or two to finish it. There is no change since last report in Bulwark cross-cut. The 40 north still continues a very good one, composed of gossan, malachite, and yellow ore. In the gossan we find some quantities of black oxide. This ore itself will make good returns of ore. No change anywhere else. Weather is very much against us at present for surface work.

BWICH UNITED.—W. Northey, Nov. 22: In the 100 west the lode is about 2 ft. in width, producing saving work for the dressing floors. This point looks very encouraging, and is daily improving, and judging from its present appearance, we may fairly anticipate in entering into a new run of ore ground. The men employed in cutting out arch in bottom of the 40. The lode is yielding good saving work. No change has occurred at the cross-cut north at the 50, and the same remark may be applied for in back of the 30. In the 12 east the lode is about 2 1/2 ft. in width, of a most congenial character, carrying occasionally patches of lead ore. The stope in back of the 15, under an old Marvyn's lode, is much the same as last reported. Drawing and dressing are carried on regularly. The machinery is in good order, and working well.

CARN CAMBORNE.—W. C. Vivian, Nov. 22: I beg to report as follows:—In the 95, west of sump, on south lode, the lode is 3 ft. wide, composed of soft spar, peach, and rich copper ore. It has vugs and cavities in almost every part, and is as promising a lode for producing large quantities of copper ore of rich quality as I have seen in any mine. In the 70 cross-cut, north-west of engine-shaft, the rock is becoming wetter than it has been, which seems likely to indicate the proximity of the lode. In the 40, west of engine-shaft cross-cut, on the north lode, the appearance has very much improved, and indicates further improvement. The lode has opened out to a width of fully 4 ft., and is producing masses of blende and copper ore. This end has never looked so well as it does at present since we have been driving it.

CARNARVON COPPER.—J. Roberts, W. Darby, Nov. 22: The sump below the 90 has gone very poor, and we have suspended it, 15 ft. wide, for reworking and making further trial. We have put three men on the stope on the eastern end of the sump above this level at 4s. 5s. per ton, which is equal to 10s. in 14. The end in the 55 is in large lode, and looking very kindly, with patches of sulphur and strong spots of sulphur throughout. This end is not sufficiently advanced to get into the ore that is in the 70. All the tribute pitches are much the same in value as they have been for some time past, and the sump in the 70, at Cae-y-groes, is without change.

CARNARVONSHIRE GREAT CONSOLS.—W. H. Borlase, Nov. 23: The water is again in fork, and the men have resumed their bargains at the 24 on the course of the lode. The branches of lead intersected in cross-cutting the hanging wall are now coming out in the end, in which we have the wall of a spile; a few feet further will prove whether the branches will face this wall or otherwise. The intermediate level, west of No. 1 winze below the 14, has holed to another large vug, which contains some good lead work. No. 2 winze sinking below the 14 east, is at present producing saving work for lead. The same remark will apply to the 14 east for the part of the lode being carried. There is an improvement in the winze on the junction below the 14 west, where we have a very kindly branch of spar with strings of lead, but not enough to value. Diagonal Shaft: We have not taken down the lode since last report. The stope throughout the mine on the whole are producing their usual quantities of lead.

CENTRAL FOXDALE.—John Garland, Nov. 18: Engine Shaft: In the 135 fm. level east on south lode, the lode has continued poor throughout the month. A cross-cut has been put out north about 12 ft., but nothing but country rock was met with. We are now cross-cutting south, and, although only commenced a few days ago, a better portion of the lode has been intersected; so far as cut into it produces good stones of ore. I shall be able to report more fully on this point in a few days. I am now of opinion that we shall have a good paying lode. I may add that the lode is very wide at this point. In the 120, east on south lode, I am pleased to report its continued productiveness. The portion of the lode carried 18 ft. wide, composed of killas, calc spar, carbonate of iron, blende, and lead ore, producing of the latter fully 2 tons per fathom; a very promising lode. In No. 2 sump, sinking below this level, the lode is large, carrying small branches of lead ore, but not in sufficient quantities to value. Apparently this sump will come down on the 135, a few fathoms to the west of the rich bunch of ore passed through in that level. Good progress continues to be made in this sump. No. 1 stope, over the 120, east on north lode, produces from 10 to 12 cwt. of lead ore per fathom. No. 2 stope, east of the above, produces 25 cwt. of lead ore per fathom, and looks promising to go above the 105, to which level it has now been wrought. In No. 3 stope, east of cross-cut, on north lode, the lode is very fluctuating in value, averaging a product of about 12 cwt. of lead ore per fathom. A stope, west of No. 3 sump, on south lode, shows an improvement, and is now producing fully 1 ton of lead ore per fathom. In the 105 east, on south lode, the lode is gradually becoming larger and looks more kindly, and at present it produces saving work. In the cross-cut north of this level, towards north lode, we are now entering the greenstone; hence we may depend on intersecting the lode in a few days. This will be effected in the eastern end of No. 2 stope mentioned above, when the 105 will be extended eastward on north lode. No. 1 stope, over the 105, east of No. 2 sump, produces about 1 ton lead ore per fathom. No. 2 stope, west of No. 3

sump, is very bunched, averaging a produce of 10 cwt. of lead ore per fathom. No. 3 stope, east of No. 2 sump, carries a large lode 12 ft. wide, and produces about 12 cwt. of lead ore per fathom. In No. 4 stope, east of the last named, we are stripping down the lode to its full width, and its yield will be about 10 cwt. of lead ore per fathom. In the stope over the 90 east, on south lode, we are still tracing the lode back westward, behind former workings. Its produce is about 1 ton of lead ore per fathom. Taylor's Shaft: In the 74 west we find the lode to be very badly crushed; but we have now got through the heaviest part of the work, and shall clear and secure it right on to the end in another week, including the laying down of a tramway, which will greatly expedite the transit of stuff in the future, and enable us to drive for at least 10s. per fathom less. The machinery throughout the mine is all in good working order, and drawing and dressing are being kept on with regularity. The parcel of ore (110 tons) sold on Tuesday last realised 14s. 5s. per ton, and good progress is being made towards another parcel.

DELSBY MOUNTAIN.—W. Sandoe, Nov. 22: The water is now cleared out of the mine, and we have been drawing to-day from the bottom (No. 6) level. The stope in No. 5 is worth about 1 1/2 ton of lead ore per fm.; and in the rise the lode is much the same as for some weeks past, worth 3 to 4 tons of lead ore per fathom. The cross-cut at No. 5 proper is now home to the nearer side of the rise, within about 1/2 yard. This will be driven in a day or two, when we propose to sink a bit, in order to try to get a hole through by the end of the week. The rise is 5 to 6 ft. below us. The communication here will lay open some good stopping ground.

DEVON FRIENDSHIP.—F. R. W. Daw, Wm. Gill, Nov. 23: No alteration has taken place in the seven points of underground work reported to you last. Surface operations: We are pressed to inform you that good progress is being made in the erection of the winding machine for hauling the stuff broken on Bennett's lode; we expect to have it working some time next week. This machine being worked by water power, full 16s. per month will be saved on our coal expenses, and we shall be able to dispense with the Roby engine, which is at present hauling the stuff from the mine. Dressing Machinery: The foundation for the shed is finished, and as soon as the carpenters have finished the winding machine we shall push on the erections here with all possible speed.

EAST BLUE IS.—S. Bennetts, W. K. Mitchell, Nov. 22: The lode in the adit east end is 15 ft. wide, and worth 6s. per fathom; it continues of a most promising appearance, and the surrounding killas, too, is all that can be desired, such as will, in our opinion, lead to profitable results below. There is not much change to notice in the stope. In opening out a new one in the adit west of the one we have had previously at work we find in the level a lode from 4 ft. to 6 ft. wide, and worth from 7s. to 8s. per fathom, whereas in the level over this ground the lode is small and poor; in fact, the lode has been more productive in the adit level throughout the whole drive than it has been hitherto found anywhere much above that level.

EAST CARADON.—W. George, J. Kellow, Nov. 22: In the 150 east, on the counter, the ground is more favourable for driving than we have had it for some months past, and we hope will continue to improve as we near the cross course; the late bargain set has not yet been completed. In the 130 cross-cut south we have had a very favourable change in the ground during the past month, and within the last 6 ft. driving have crossed three regular branches of rich quality ore, interspersed with muddle and quartz, presenting a most promising appearance, and although near the cross-course may be valued at full 1 ton of ore per fathom. These will undoubtedly come together in driving a short distance west, and, judging from the other lode near the cross-course, this as well as the adjoining mines, we may reasonably expect a further improvement; but finding there is a little water oozing through the ground beyond the south branch, which we have never before seen since the driving was commenced, we deem it advisable to continue the drive south for at least another month, believing from the indications there is yet more lode before us. The cross-cut is, therefore, set to six men at 7s. per fathom. We consider the cutting of a lode here very important for the future of the mine, seeing it is entirely a new feature and in whole ground to surface. The stope below the 100, on Child's, is set to four men at 4s. per fathom; the lode is 10 ft. wide, and worth 4s. per fathom. The 100 west, on Child's, is set to six men at 6s. 10s. per fathom. We have four pitches set to eight men at tribute varying from 11s. to 13s. 4d. in 14.

EAST CHIVERTON.—R. S. Smith, Nov. 22: Since my last we have communicated the rise in the back of the 100 fm. level with the 90, which has given good ventilation throughout the bottom part of the mine. In the 100 end, west of the engine-shaft, we are passing through precisely the same kind of ground as we had in the 90 before meeting with the silver-lead, and as the level is nearly driven far enough to be in the rich ground, gone down in the level above, we may expect to find it at and below. The lode is being driven by six men, at 4s. 15s. per fathom. We have two stope, from which we are raising some good work. It is my intention, in the commencement of the ensuing month, now we have good air, to resume the driving of the 100 end, east of the engine-shaft. At surface, our new steam-whim is in a forward state. The shaft tackle will be lifted in its place this week. After the whim is ready for drawing, we shall be able to prosecute the underground operations more vigorously, and with less expense at the surface, to work well.

EAST CHIVERTON.—D. Williams, Nov. 22: The 75, west of the heave, has been extended upon the main lode 25 fathoms from the cross-cut. During the past month we have passed through a hard bar of ground, but the end is much easier to work, and the vein improving as we advance, and judging from its general character with the accompanying matrix we appear to be entering the eastern end, or commencement of No. 2 section of ore ground, now profitably wrought in the 54 above. A stope in back of the level in a lode 2 ft. wide, and producing 10 cwt. of ore per fathom. A winze sunk below the level, in No. 1 section, is down 2 fathoms in a lode 4 ft. wide, and producing 30 cwt. of lead ore per fm. The winze sunk below the 54, in No. 2 section, is down 10 fathoms, with dravages extending both ways upon the vein 9 fathoms on a 10 to 3 ft. wide, the matrix being limy spar, gossan, sulphate of barytes, and branches of lead ore, worth 30 cwt. per fathom. A stope east of the winze is worth 20 cwt. of ore per fm. No. 1 stope, in back of the level, is producing 12 cwt. of lead ore per fathom. We have three pitches in the back of the level, wrought at 90s. and 100s. per ton of dressed ore. No. 2 shaft is down 18 fathoms below surface. Our machinery throughout the mine is doing good duty. During the past month we have raised and dressed 32 tons of lead ore, at a cost of 28s. 6d., including merchants, smelting, and pumping expenses, which cannot but give general satisfaction, and the increase which has been occasioned by the late heavy and continuous rains, which we hope are now abating, when we shall not be long before we reach the 40. Foster's shaft is cleared, and in good working order to the 30, and that level cleared and intersected. Old Shepherd's lode, which we shall now clear west a few fathoms in order to reach a winze sunk from the 20; this being done we shall have good ventilation in this level, which will enable us to do the necessary work for the development of the other lodes. The three stope in the 20, on the east and west and north and south lodes, vary in value from 4s. to 12s. per fathom, and are all in good working order. There are also 10 to 21 cwt. in the fathom. The stope in the adit level, on Innes's lode, is worth for silver-lead and blende 7 cwt. to the fathom. Roberts's Shaft: This shaft is cleared, secured, and made fit for drawing to the 30, which will be cleared now with all possible dispatch, so as to reach the end of the ground. We are pleased to say that we have cut Middleton's lode in the cross-cut west, in the 20, a little south of this shaft, and 80 fathoms further south than where it was intersected by us in the adit level; it is about 2 ft. wide, and composed of quartz, iron, pyrites, and blende, and is carrying with it a very fine flooken, altogether a lode of such a character as will scarcely fail to be productive of silver-lead ore. This is a very important matter in the future interests of the mine, inasmuch as it remains entirely unwrought from the east and west lode to the south boundary, a distance of about 400 fms., a splendid mine in itself. If this lode be found as rich on the southern side of the east and west lode as it was from that point to North Wheel Rose, its importance cannot be too highly appreciated. Since the weather has improved the masons are making great efforts to complete the building of the winding-engine house, which will be finished in a few days; the erection of the engine-house will be proceeded forthwith. The 90-in. engine is working well, and the erection of the 100-in. engine is also being got on with. North Wheel Rose shaft is cleared up about 14 fathoms, and Purser's shaft is cleared and footway put in complete 5 fathoms below the 30. The dressing machinery is working as well as usual, and we have a very nice parcel of lead and blende already dressed.

GAULTON.—G. Rowe, G. Rowe, Jun., Nov. 18: The lode in the 117 east is 7 ft. wide, producing 18 tons of muddle and copper ore per fathom. The lode in Nos. 1, 2, and 3 stope, in the back of the 117, is worth respectively 9, 10, and 15 tons of muddle and copper ore per fathom. The lode in the stope, in the back of the 105, is worth 10 tons of muddle per fathom. The No. 1 stope, in the bottom of the 95 east, is worth 8 tons of muddle per fathom; and the No. 2 stope at the same level is worth 15 tons of muddle per fathom. The lode in the stope Nos. 1 and 2, in the back of the 70, east of cross-cut, is worth 10 and 12 tons of muddle per fathom.

GLASGOW CARADON CONSOLS.—W. Taylor, W. J. Taylor, Nov. 20: South Lode: The 114 east is looking a little more promising, and we hope it will soon further improve. No change to notice in this level going west. The stope on this lode are about the same value, worth from 8s. to 10s. per fathom. Harvey's Lode: The 114 west is still rather disordered by a horse and cross branches, and will soon be its former value again. The ground continues very favourable. This level east is worth 5s. per fathom. No change to report in the 102 west on this lode. The 90 west is worth 6s. per fathom. The 90 west, on north lode, is likely further to improve. The stope throughout the mine are about the same value as last reported, worth from 10s. to 15s. per fathom.

GOOSEBERRY.—R. Knott, Nov. 22: Higher Shaft: The bottom end east and the stope in back of this level continue to produce saving work for the stamps. The lode in the end above referred to is 3 ft. wide, and in the past week we have met with some good quality grey and yellow copper, altogether of a highly promising character, being only 15 fms. from surface. We think a winze should be sunk in the bottom of this level, in order to prove the lode at a deeper point. This work will be taken in hand in due course, when, I have no doubt, good results will follow. In the drive west the lode is not looking quite so well, having been off in size towards the back of the level, but maintaining its size throughout the drive. In the drive south from the engine-shaft we have intersected several branches carrying a little tin. The ground is favourable for driving, and good progress is being made, and every probability of cutting a productive lode.

GODDARD'S LEAD.—R. H. Vivian, Nov. 22: We continue driving the eastern end; it does not at present turn out so much lead as the deeper stope, but I believe we shall open up a fine section of lead ore ground here. I consider this the most legitimate mode of working for the present. There is no other change to notice.

GREAT WEST CHIVERTON.—J. Curtis, Nov. 22: Watson's engine-shaft is 8 fms. 2 ft. below the adit level, lode 2 ft. wide, with good spots of lead in it, and getting more well defined as depth is attained. We hope to be at the 10 in another week, when we propose driving west to get under the winze sunk in the deep adit, where the lode will yield about 1 ton of lead per fathom.

GREEN HURTH.—Jas. Polglase, Nov. 18: There is a very good lode in the 44 end, north of Swan shaft, not quite so wide, but very solid, worth from 3 to 4 tons per fathom. The south end of the 44 is worth 1 ton of lead per fathom. The stope in the bottom of Standage level is worth 4 tons of lead per fathom. The stope in the back of the Standage is worth 4 tons per fathom. The cross-cut east from above level is in very solid limestone; progress slow. The stope in the bottom of the 30 north, referred to last week, is poor, but this stope will have to be continued for a few fathoms to let the water down in the north end. No. 3 stope in the back of the 30 is worth from 3 to 4 tons per fathom; this stope being now filled is resumed to-day. No. 4 stope is not quite ready for stopping. No. 5 stope is also resumed; vein here disordered for a short distance. Vipond's sump has been retimbered, also the back of the 30 around the sump. The severe weather completely puts a stop to our new work, and greatly retards our dressing and tramming.

GUNNISLAKE (CLITTERS).—Wm. Skeewis, Jno. C. Secombe, C.W. Secombe, Nov. 22: There is no change to notice in the underground department of the mine since the report for general meeting. All operations are progressing satisfactorily. We started the engine for pumping water from the river Tamar yesterday, and find it to be doing its work exceedingly well.

HEALEYFIELD.—J. Trelease, Nov. 17: I have this week set the following bargains:—To drive the Success cross-cut east, by four men, 1 fm. about, price 60s. per fathom. Last week we passed through some strong strings about 1 ft. in width, producing good stones of silver-lead, and strongly impregnated with lead throughout, but not in sufficient quantities to operate on at once, but after extending the cross-cut further ahead we intend driving on these strings to prove their value. No. 2 cross-cut, in the back of main level, driving east, by four men, 1 fm. about, at 120s. per fathom. We have intersected several small crossings in this drive this last few days, and the ground is rather more favourable for driving than it has been for the past month, at present. I have set a bargain in the back of Success level to rise up and communicate with Wilson's sump. We cannot well sink it any deeper as we have cut a feeder of water in the sump, therefore, we can rise it cheaper than sink it through. I have set this bargain at 60s. per fathom, 4 fms. about, to draw all the debris, and place it in the wagons at the main level. I have two men working in Eddy's rise in back of main level, I set 2 fms. about, price 30s. per fathom. The lode here still has a very kindly appearance, producing good stones of lead, and I hope it will still further improve. The tribute pitch in foremost sump, I have set them a new bargain for one or two months forward, for four men, tribute 45s. about. The lode is over 10 ft. wide at this place, and the ore is disseminated throughout. I have no other change to notice in any other part of the mine. The shaft, at surface we have not been building for the past few days, the mason has been busy erecting the arch, &c. Cottages going ahead rapidly this week.

HINGTON DOWN.—Thomas Richards, Nov. 22: The engine-shaft is down below the 25 fm. level 14 fms. 4 ft. 3 in.; the sinking has been delayed some time below the past week, having had to strengthen the loading of the engine and to change the working barrel of the sinking lift. The ground, however, continues favourable, and sufficient depth will soon be reached to admit of drawing the next intended 40 fm. level. The 25 east, by six men, has been driven 2 ft. 10 in.; total distance from the shaft 31 fms. 4 ft. The lode contains copper, quartz, muddle, &c., and in places a little rich copper ore. The cross-cut at the 25, east of the shaft, towards the No. 2 lode, by four men, has been extended 2 ft. 9 in.; total distance south of No. 1 lode 6 fms. 1 ft. The 12 east, by four men, has been driven 2 ft. 5 in.; total distance from the shaft 51 fms. 2 ft. 1 in. The lode contains without change. The deep adit level, by four men, has been extended 3 ft.; total distance south of No. 2 lode 31 fms. 4 ft. The ground is much the same.

LANGFORD.—R. Goldsworthy, Nov. 22: I am pleased to inform you the plunger fixed at the 30 is working well, the water again in fork, and arrangements made for working the drop lift which has been sent down 5 fms. in the underlie when we found some obstruction which prevented us dropping any further. I hope to have the water sufficiently drained to send you full particulars next week.

LANDEGLA.—H. Hotchkiss, Nov. 22: To-day I have had the whole of the lift delivered on the mine. The shaftmen are taking up a portion of the water, so as to fix bearers to carry the lift. The smith will fix rods and connections ready by to-morrow evening, and by Friday evening I hope to have all in readiness for pumping.

LOVELL (THE).—J. Prisk, Nov. 23: I am pleased to report that our 20 end, east and west of cross-cut on No. 1 lode, are improving; they are producing paying stuff, and from appearances are likely to further improve and become profitable stope. Good progress is made in sinking the engine-shaft, which is now about 7 fms. below the 20. This shaft is not on the No. 1 lode, but is a little south. When the 30 is reached we shall have about 3 fms. to drive north to intersect it. I consider our prospects on the whole are better than for some time past. The water-wheel does very well, and pumps the water with ease.

MELLANEAR.—S. Harris, W. R. Toms, Nov. 22: The ground in the 30 cross-cut, south of Gundry's shaft, is still very congenial for mineral and easy for driving. The 70 cross-cut, driving north of main lode, is passing through a very promising channel of ground, being intermixed with veins of spar and muddle, which we are expecting will very soon lead to a discovery. In the 90, driving west of Gundry's shaft, the south part of the lode is 5 ft. wide, yielding 2 tons of ore per fathom. The lode in the 100, west of the shaft, is 5 ft. wide, yielding 1 ton of ore, and looking more promising. The winze in bottom of this level, east of shaft, is yielding 1 1/2 ton of ore per fm. In the 110, east of shaft, the lode is 4 ft. wide, yielding 1 ton of ore per fathom; we have intersected a large vug, which has disordered the lode a little, but we think this is only temporary. The lode in the 110, west of shaft, is 5 ft. wide, yielding fully 2 tons of ore per fathom. The part of the lode carrying in the 120, east of shaft, is 5 ft. wide, yielding fully 2 tons of ore per fathom; the lode has considerably improved in character and value, and there is every indication for further improvement. The lode in the back of this level is yielding 1 ton of ore per fathom. The lode in the 90, driving east of the old engine-shaft, is 2 ft. wide, composed of vein, fine capel, peach, and spar, with stones of muddle and copper ore. In the 110, east of shaft, the lode is 2 ft. wide, yielding a little tin. The lode in the 110, west of shaft, is 3 ft. wide, and letting out an increased quantity of water, and looking more promising for an improvement. The stope throughout the mine are yielding their usual quantities of copper ore. We sampled on Tuesday last (computed) 555 tons of copper ore.

DEVON COPPER.—Jas. Neill, Nov. 18: A Shaft: Water kept to bottom of the 80, and the machinery is working well; the influx is increasing, owing to continuous rains. At C shaft, 45 fm. stope east, we have eight men and two boys. The strata throughout the whole extent of the stope is very congenial, and all joints and fissures still stained with copper, and wherever a little water oozes the copper greens are sure to follow. Such indications as these in other parts of the mine have, as a rule, led sooner or later to large deposits of ore, and, in my opinion, we shall have an improvement in the yield of ore here shortly; or raised this week, 1 ton 5 cwt. The 50 driven, by six men, 5 ft. 6 in.; a cross-cut was intersected here on the 50, the composition of which is favourable to the production of ore; it is highly mineral, and contains another cross-cut, course about 3 fms. ahead to intersect, both of which we passed through at the 45. To the east of this cross-course I expect to enter the ore-bearing strata as we did in the 45, where it continued to improve until the large deposit of ore was cut into. Surface, Rock-Drill, Wheel-Pit: The inclement weather still impedes this work. The masons have not this week been able to work more than half-time. The trench to secure air-pipes along the surface is taken out for half the length, and expect to commence fixing pipes next week.

MOON'S BAY CONSOLS.—W. Argall, J. James, J. Rowe, W. H. Argall, Nov. 18: Trebarh: There is no change to report in the 70 cross-cut since last report. The pitch in the back of the 62 is worth 3s. per fathom, and in the bottom of the same level worth 3s. per fathom. We have set to drive and stope the 62, west of Richard's shaft, at 13s. 4d. in 14. tribute; the lode is worth about 6s. per fathom. Sydney Cove: Owing to the very heavy rains, we have not been able to drop the pitwork below the 30, so as to resume the clearing below that level. The tribute pitch on the south lode is worth 3s. per fathom. The tribute pitch on Browne's lode, in back of the 20, is worth 4s. per fathom. In the winze taking down the level of 15 ft. we have yielded from 3s. to 4s. per fathom. North Part: The rise in the back of the deep adit level, on No. 1 lode, the lode is worth 5s. per fathom. The two tribute pitches on this lode are worth about 3s. per fm. each. The new engine-shaft has been holed to the level driving on No. 6 lode; the men from the level have commenced to drive a cross-cut south to intersect Nos. 3 and 2 lodes. No. 7 lode is worth 3s. per fathom. The level driving on No. 2 lode is worth 3s. per fathom. We are progressing as fast as possible with the steam stamps and dressing floors. Pembro: Fair progress has been made in driving the 20 cross-cut south; the ground is as it should be for the production of copper ore, and yesterday we had some sprigs of ore and muddle in the country.

MYNYDD GORDDU.—T. Kemp, Nov. 22: In the 45 end, west from cross-cut, since my report of last week a branch came in from the south side of the driving and crossed the level, which cut off nearly all the muddle, and the breast is now in a very hard lode, being composed of killas, quartz spotted with muddle, and silver-lead ore, and for the present it is almost impossible to say what effect this sudden change will have on the lode before extending a few feet further, but trusting for better results. The lode in the 45 end, east from cross-cut, still looks very promising, being composed of killas, quartz, intermixed with muddle, and at times showing nice spots of ore; a very promising point, and no doubt will lead to very valuable results in this the eastern part of the mine, at an early date. All other bargains are without change, not calling for any special remarks since my last.

NEW CARADON.—N. Richards, Nov. 22: We hope to get through the first close run in the adit level in about a week from this date, after which we calculate on making greater progress. We have also a pair of men securing the adit, the top part of which is in a bad state, but the present out principal object is the clearing of the adit, as we are anxious to examine the ground and see what branches or lodes have been laid open.

NEW KITTY.—W. Vivian, Nov. 23: The engine-shaft is down to the 50 below the adit. We have commenced to drive a cross-cut south of engine-shaft to intersect West Kitty lode. Thomas Shaft: I hope to complete the clearing and timbering of this shaft by the end of next week.

NEW TERRAS.—T. R. Pryor, Nov. 23: We are still pushing on with the engine-shaft and other work. The ground is a little harder for sinking than when I last reported.

NEW VAN CONSOLS AND GLYN.—J. Roach, Nov. 22: The new cross-cut driving south-east on the lode at the 50 is improving in character; the breast is traversed by branches of carbonate of lime, containing cubes of lead, but not sufficient to value yet. We are not so far south on the lode as where we are stopping above; at present I have only two men driving, therefore progress is not very rapid, and will put on two additional hands on Monday next. In the stope in the roof of the 70, west of Murray's shaft, we are still driving west; the breast contains upwards of 1 ton of lead per fathom. This productive ground is now 10 fathoms long, which will average 20 to 25 cwt. of lead per fathom. We shall soon commence stopping the roof. Three parallel sections of ground in No. 1 stope will average 15 cwt. of lead per fathom. All is going well at the mines, and satisfactory progress made in all departments. I forwarded the parcel of 35 tons of lead to purchasers on Monday last. We have now 5 tons raised towards our next sampling.

the nearest price, the Indian Exchanges being reported as lower. About 20,000, has been received from the River Plate, and 25,000, from America. The Mosquito takes 6920, to the West Indies, and the P. and O. steamer 70,500, to Calcutta and Bombay.

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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, NOV. 24, 1882.

IRON.	£ s. d.	£ s. d.	TIN.	£ s. d.	£ s. d.
Pig, G.M.B., Clyde...	2 8 11	—	English, ingot, f.o.b. 104	0 0 105 0 0	0 0
" Scotch, all No. 1	2 9 9	—	" bars	105 0 0	106 0 0
" Welsh, f.o.b. Wales	5 15 0	6 0 0	" refined	106 0 0	107 0 0
" " " " " "	6 5 0	6 10 0	Australian	99 10 0	—
" Stafford...	7 5 0	7 10 0	Banca	99 10 0	—
" in Tyne or Tees	6 5 0	6 5 0	Strait	99 10 0	—
" Swedish, London...	9 10 0	10 0 0	COPPER.		
" Rials, Welsh, at works	5 15 0	6 0 0	Tough cake and ingot	71 0 0	73 0 0
" Sheets, Staff., in London	9 0 0	—	Best selected	73 10 0	75 0 0
" Plates, ship, in London	9 5 0	9 10 0	Sheets and sheeting	78 0 0	—
" Hoops, Staff.	7 15 0	8 0 0	Flat Bottoms	79 0 0	—
" Nail rods, Staff., in Lon.	7 5 0	7 10 0	Wallaroo	73 10 0	74 0 0
LEAD.			Burra, or P.C.C.	73 10 0	—
English spring	12 0 0	13 0 0	Other brands	73 10 0	73 0 0
" east	10 0 0	11 0 0	Chilli bars, g.o.b.	67 0 0	67 2 6
" Swedish, keg	15 0 0	—	QUICKSILVER.		
" lag, ham.	15 0 0	—	Flasks, 75 lbs., war.	5 15 0	5 17 6
" Rails at works	5 5 0	5 10 0	PHOSPHOR BRONZE.		
" Light, at works	6 10 0	6 15 0	Alloys	11, 11, and IV.	£128 0 0
English, pig, common	14 0 0	—	" VI. and VII.	120 0 0	—
" " " "	14 5 0	14 10 0	" XI, Spl. bearing metal	120 0 0	—
" " " "	14 12 6	14 15 0	BRASS.		
" sheet and bar	15 0 0	15 0 0	Wire	8 d.	—
" pipe	15 0 0	—	Tubes	10 1/2	—
" red	16 0 0	—	Sheets	8 1/2	—
" white	20 10 0	22 10 0	Yel. met. sheath. & sheets	6 1/2 d.	6 1/2
" patent shot	16 10 0	—	TIN-PLATES.		
" Spanish	17 10 0	—	Chareon, 1st quality	1 1 0	1 2 0
NICKEL.			" 2nd quality	1 0 0	1 1 0
Meta. per cwt.	15 0 0	16 0 0	Coke, 1st quality	0 18 0	—
Ore 10 percent. per ton	20 0 0	25 0 0	" 2nd quality	0 16 0	0 17 0
SPELTER.			Black	15 10 0	—
Silesian	16 15 0	17 2 6	Canada, Staff. or Gla.	12 0 0	—
English Swansea	17 7 6	—	at Liverpool	12 0 0	—
Sheet zinc	20 0 0	20 5 0	Black Taggers, 450 of	30 0 0	—
			14 x 10	—	—

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; 1X 6s. per box more than 10 quoted above, and add 6s. for each X. Te. plates 2s. per box below tin-plates of similar brands.

REMARKS.—This week the metal market has, for the most part, been in a less satisfactory condition, and prices almost all round have assumed an easier tendency. With the exception of tin, in which at times numerous transactions have been carried through, the amount of business done has been decidedly limited, regular trade having continued dull, and speculative business languid, the one adversely affecting the other. Doubts are now freely expressed of any speedy revival. It is generally thought that the season has too far advanced to permit of any thorough restoration in the trade this year, for many of the Northern ports are already closed for navigation, and the only hope of any improvement in the shipping trade rests with the Eastern climates, buyers at which may be tempted by the reduced prices to come forward, and give support to the markets, particularly as buying for export has hitherto been confined within such narrow limits, and must therefore have given a good chance for indenter's private stocks to have been greatly diminished. For a long time past business with India has been especially slack, and the lower rates, which are now being quoted, ought certainly to stimulate the demand from that country. Since prices have been reduced, there has at times been symptoms of a little better enquiry from the various Indian markets, but unfortunately this little improvement has not been followed up, and the acceptance of reduced rates seems the only way that the demand for India is likely to be stimulated. What business has been done, however, and the slightly better enquiry at times visible, proves that Indian buyers and our manufacturers' idea of prices are becoming closer, and although at present no general revival in the trade with India has been made, yet the little business recently transacted is a feature which bids well for the future, and promises that fully an average, if not more than an average, amount of business is likely to be executed during the forthcoming winter months, particularly if prices are much reduced.

In the meantime, too, until some restoration in the general trade ensues prices will probably show signs of ease, but no very speedy heavy reduction appears probable unless the value of the raw material should be greatly diminished by the action of speculators, which, however, does not seem very likely while so great an interest exists in the maintenance of prices. The markets were depressed, more particularly at the early part of the week, arising, no doubt, in some measure by the semi-panic feeling at times noticed upon the money markets in France and America, but this is not long allowed to bear any marked injurious influence upon the markets, and occasionally in the latter part of the week there has been some recovery observed in the tone, combined also in a few cases with the realisation of higher rates. The general state of the trade has not undergone much alteration; at some of the manufacturing centres there is still reported a fair amount of briskness, but the willingness here and there evinced on the part of most manufacturers to make concessions in prices rather than let orders pass by them may be taken as a criterion that old orders are being fast worked off, and this is another reason why prices during the immediate future may continue easy.

COPPER.—This market has kept very inanimate, only a small amount of business having been transacted. Prices in consequence have assumed an easy tendency, but without inducing buyers to any particular extent to come forward and give support to the market. Of course it is impossible to say whether the bottom of the market has yet been touched, for after every fall some efforts, though they may be but feeble, are made to sustain prices, and this week, although a drooping tendency has marked the course of prices, yet at times some endeavours have been made to check the fall, but they have for the most part been unsuccessful. The general state of the trade is not good, and notwithstanding statistically it may be fairly satisfactory, yet the legitimate trade is decidedly flat, export orders only to be had at reduced rates, while it is generally thought that consumers have fully satisfied their want, thus diminishing the chances of good deliveries for the immediate future. Under these circumstances lower prices are not at all improbable, although the market will doubtless receive support or be weakened according to the charters from Chili are next week advised as light or heavy. Operators who have recently been buying may use their combined strength to sustain the market, but in the face of the unfavourable state of the general trade they will doubtless experience a good deal of difficulty in their efforts, unless they are helped by a repetition of light charters. The relatively high price of Chili bars compared with manufactured is also another feature which must cause some little anxiety to holders, as it tends to weaken the market and deter speculators from making fresh purchases.

IRON.—Throughout the past week this market has been rather flat, and but few transactions are reported in any branch of the trade, with the exception of the shipbuilding trade, which is said to have been very brisk; and it is satisfactory to find that advices from the North report the termination of the strike amongst the shipbuilders, the

men having returned to their work upon employers' terms. With regard to manufactured iron generally it continues quiet, fresh orders being limited; but a few works are still going tolerably regular, this being chiefly so in South Wales and South Yorkshire, quietude being reported from all other parts. It is evident that current prices do not derive their support from the actual amount of business done, but are chiefly sustained in the same manner as they have been during the past two months—by the heavy cost of manufacture. With reference to the raw material the market has been dull, and according to the reports from Glasgow, there has been some pressure shown to sell Scotch pigs, not from any adverse feature in the Scotch trade, for that continues to improve, but probably from Continental and American affairs. The returns show good shipments for pigs and reducing public stocks, which are important favourable features in the market, especially when we consider that visible stocks in both Glasgow and Middlesbrough have continued to be largely reduced every week ever since last June. A small business has been done in makers' iron, and prices are steadily sustained, and compared with prices for mixed numbers, are relatively high. The following returns from the several producing and manufacturing centres show the present state of the trade in those parts referred to.

The Glasgow warrant market opened on Monday with a good deal of desire being shown to make sales, and business was done from 49s. 9d. to 49s. 3d., closing however, rather better, at 49s. 7d., while on Tuesday a large number of transactions were recorded, chiefly at 49s. 10 1/2d. On Wednesday the market was rather better, and closed with buyers offering 49s. 3d.; but was again flat yesterday, upon the announcement of two failures, and there were sellers at 48s. 5 1/2d.; but some recovery has taken place to-day. The closing figures being 48s. 11d. The shipments last week were fairly large—11,316 tons, against 11,153 tons for the same week of last year, or an increase of 163 tons, and which makes the total shipments for the whole of this year 571,324 tons, against 521,463 tons for the corresponding time of last year, and 610,109 tons for the similar period of 1880. There is one less furnace in blast, the total now being 114, while the visible stock has been reduced by 2178 tons, and now amounts to 616,452 tons, against 618,630 tons last week. The imports of Middlesbrough pig-iron into Grangemouth last week were only 639 tons, against 6330 tons for the corresponding week of last year, or a decrease of 5691 tons, and which makes the total decrease for the whole of this year, compared with last, 61,575 tons. The Middlesbrough market has been very flat and dull, buying having been curtailed to the most pressing wants of the trade, and what transactions have been carried through have been chiefly amongst second-hand holders. There are various quotations for No. 3, some sellers quoting 43s. 9d., although there are not many buyers who will pay that figure; other markets are asking 44s., while some are quoting as high as 44s. 6d., warrants ruling from 43s. to 43s. 3d.

The public stock has been further diminished by 575 tons, and amounts to 101,576 tons, while the shipments of pig last week were 15,390 tons. The manufactured trade remains steady, tars ruling at 6s. 5d. and angles at 6s. Although a meeting of plate-makers has been held to consider the question of reduced make, no conclusion has been arrived at, and quotations remain at 6s. 12s. 6d. to 6s. 15s. At Sheffield the demand for railway material is reported quieter, while the armour-plate manufacturers are said to be fairly busy. The general demand for iron is not brisk, and it is thought present prices will not be long maintained. The state of the Wolverhampton market has undergone very little change, but prices generally are rather easier. Sheets, however, remain firm at 8s. 10s., but for double and treble sellers are not unwilling to make slight concessions. Bars are being quoted at 7s. for medium qualities, and from 7s. 10s. to 8s. 12s. 6d. for best qualities. Pigs are quoted from 70s. to 72s. 6d., and Barrow and Tredegar hematites are offering at 70s. With the exception of pig-iron the Birmingham market is said to be in a fairly brisk condition, and a large amount of business has been transacted in some classes of iron. Prices for the most part have kept firm, manufacturers being indisposed to make concessions. The export demand is not very active, but for consumption it is well sustained, there being a very fair enquiry, indeed, for common bars, sheets, and hoops, but marked bars are somewhat dull of sale. The advices from Wales are still satisfactory, and report that the business of supply and demand must continually assert themselves, and they do so particularly so at a time like the present, when the amount of speculative business is, perhaps, barely so large as usual, because holders are not carried away so much by excitement, but are able to form a calmer and, therefore, better judgment of the actual state of the market. A steady gradual rise such as what has taken place this week tends to increased confidence; and although the movements of the principal operators are still keenly watched, yet other buyers seem less shy to make purchases, and are perfectly satisfied if they can turn over their purchases at even only a small profit, which they have been able to do this week by the improving course prices have taken day to day. The market opened on Monday quietly at about 97s. 15s. for cash parcels of foreign, and has continued to improve by about 10s. to 15s. per day throughout the week.

LEAD.—This market has kept quiet, the price for soft Spanish being 13s. 17s. 6d., and for English 14s. per ton.

SPELTER.—Prices are firm at 16s. 15s. to 17s. for ordinaries, and 17s. to 17s. 2s. 6d. for specials.

STEEL.—A very fair business continues to be transacted, and at Birmingham a satisfactory enquiry is said to exist for steel sheets.

TIN-PLATES.—The demand is rather dull, but prices fairly steady, although at times they show symptoms of ease.

QUICKSILVER.—The first-hand price is 5s. 16s. 9d., but second-hand parcels are freely offered at 5s. 15s.

A great change has come over the MINING SHARE MARKET since our last, very little business has been transacted, and quotations in most cases are merely nominal. Should metals improve a more active business may set in, but at present there are more sellers than buyers. The shares dealt in have included Gunnislake (Clitters), Prince of Wales, Killifreth, Carn Brea, East Caradon, Wheal Crebor, West Caradon, South Caradon, New West Caradon, the New Caradon, Leadhills, Tankerville, and a few others.

Tin has been firmer, and the miners have been looking forward to a rise in the standards for ore, but no advance has taken place since they were put down 2s. per ton on the 6th. Shares are flat. Blue Hills, 1 to 1 1/2; at the meeting a loss was shown on four months' working of 2997. 11s., and a debit balance against the mine of 7247. 11s. The tin sold, 24 1/2 tons, realised 1467. 2s., and the regular costs were incurred by necessary but unproductive work. Carn Brea, 8 1/2 to 9; Cook's Kitchen, 35 to 36; Dolcoath, 71 to 73; East Pool, 51 to 53; Kit Hill, 4 to 4 1/2.

Drakewalls, 3 to 3 1/2; New Kitty, 2 1/2 to 3; South Cundarrow, 9 to 9 1/2; South Frances, 8 1/2 to 9; Tincroft, 6 1/2 to 7; West Bassett, 6 to 6 1/2; East Blue Hills, 9s. to 11s.; North Blue Hills, 3s. to 4s. Penhalls, 2 to 2 1/2; at the meeting here the accounts showed a loss on four months of 347., and a debit balance of 6711. The tin sold (39 tons) realised 2351. The mine has improved, and better results are looked for on the Balldhu lode, at the 40. Wheal Kitty (St. Agnes), 1 1/2 to 2; the accounts showed a loss on four months of 2707. 11s., and a debit balance against the mine of 6127. 11s. The tin sold (37 tons) realised 2292. 3s. One or two good improvements are looked forward to before the next meeting, in March. At St. Just United meeting the accounts showed—tin sales, 31857. 0s. 11d., a profit on four months' working of 1711. 1s. 1d., and a balance against the mine of 12177. 17s. West Pevor, 9 to 9 1/2; Wheal Agar, 16 1/2 to 17 1/2; Wheal Russell, 9 to 9 1/2; Wheal Grenville, 8 1/2 to 9 1/2; Wheal Jane, 2 1/2 to 3 1/2; Wheal Pevor, 4 1/2 to 5. Killifreth have declined to 3 1/2, 3 1/2; West Polbreen, 4 1/2 to 5.

Tregembo, 3 to 3 1/2; at the meeting the accounts showed a debit balance of 18807., and a call of 10s. per share (300007.) was made. Pedn-an-drea accounts showed a loss on four months' working of 24907., and a debit balance against the mine of 27197. A call of 9s. per share was made. New Trumpet, 1 to 1 1/2. West Kitty, 13 to 13 1/2; in a rise in the back of the 72 east lode has improved to 25s. per fathom. Goodevere, 1 1/2 to 1 3/4. North Penstruthal, 10s. to 15s.; at the meeting here a call of 4s. per share was made. South Penstruthal, 2 to 2 1/2; at the meeting here a call of 6s. per share was made. Wheal Sisters, 1 to 1 1/2; West Poldice, 3 to 3 1/2; West Phoenix, 10s. to 15s.; Phoenix, 2 1/2 to 3; South Crofty, 11 to 12; Mounts Bay, 13-16 to 15-16; Tresavean 2 to 2 1/2.

COPPER.—At the Cornish Ticketing, on Thursday, the standards for ore declined 5s. 8s. The average price of the ore sold was 37. 14s. per ton. Standard, 1047. 14s. Average produce, 6 1/2. Such a fall in the standard was unexpected, although a decline generally takes place at the Eastern sales. Shares are weaker. Bedford United, 1 1/2 to 2; the sale here realised 5267. Carnarvon, 1 1/2 to 2; East Caradon, 1 1/2 to 1 1/2. Gunnislake (Clitters), 3 1/2 to 3 1/2; the sale here (420 tons) realised 18957. Langford, 10s. to 12s. 6d. Marke Valley, 2 to 2 1/2; the sale of ore (200 tons) brought 6417. Mellanear, 4 to 4 1/2; New Cook's Kitchen, 6 to 7; New West Caradon, 9s. to 11s.; Parys Copper, 2 to 2 1/2; South Devon United, 12s. 6d. to 17s. 6d.; New Caradon, 5s. to 7s. 6d.; West Caradon, 1 1/2 to 1 1/2; West Seton, 20 to 22; West Tolgas, 16 to 18; West Crebor, 10s. to 12s. 6d.; Wheal Crebor, 2 1/2 to 3. Devon Great Consols, 4 1/2 to 5; at the meeting, particulars of which will be found in another column, the accounts show receipts for six months—copper, 10,9057.; arsenic, 10,8387. 2s. 4d.; costs for period of seven months, 25,0127. 3s. 11d. The directors state in their report that the cash credit balance on Oct. 31 was

16527. 11s. 7d., against 30377. 11s. 4d. for the corresponding period of 1881. The sale of ore on Thursday realised 22277. Devon Great Consols, 4 1/2 to 5; the accounts show a cash credit balance of 2757. 11s. 8d. South Caradon, 30 to 35; the sale of ore (500 tons) realised 24667. The discovery referred to last week was in the new ground lately added to this mine. Prince of Wales, 12s. 6d. to 15s.; the sale here, including burnt leavings, realised 2947. The tin sale realised 1097. 14s. 1d. Devon Friendship, 7s. 6d. to 8s. 6d.; the new winding-engine is expected to go to work next week, when more ore can be raised. Sorridge, 6s. 6d. to 7s. 6d.; the stopes in the 30 continue worth 12s. per fathom. The stamps are working well, and turning out an unusually good run of tin, so that it is hoped the shareholders may be long rewarded by results. West Devon Consols, 2 to 2 1/2; Mona, 4 to 4 1/2; Cathedral, 15s. to 20s.

LEAD.—Shares in lead mines remain without any change, and prices entirely nominal. Vans are quoted 5 1/2 to 6, and Laxey 17 to 18. Roman Gravels, 9 to 9 1/2. Tankerville Consols, 6s. 6d. to 7s. 6d.; we understand more than half the new capital is subscribed for. East Roman Gravels, 10s. to 12s. 6d.; the 109 south is worth 10 cwt. of lead and 10 cwt. of blende per fathom, and the 97, 10 cwt. They have sampled 20 tons of blende. Pennant, 4 1/2 to 5; Gorsedd, 2 1/2 to 3; Sinclair, 1 1/2 to 1 3/4; Pen-yr-Orsedd, 1 to 1 1/2. South Darren, 2 1/2 to 3; this mine is said to look well. Frongoch, 1 1/2 to 2; this mine has sampled 200 tons of blende for sale next week. Goginan, 1 to 1 1/2; Grogwinion, 1 to 1 1/2; Bwlch, 1 1/2 to 3; Goddards, 1 to 1 1/2; Herodsfoot, 2s. 6d. to 5s.; Leadhills, 3 1/2 to 3 3/4; Minera, 7 to 9; West Lisburne, 2 to 1; Gwern-y-Mynydd, 2 to 1 1/2. East Rose, 1 1/2 to 1 1/2; the secretary writes that he has received information from the mine stating that the celebrated Middleton's lode has been cut at the 20, Old Shepherds, 2 to 1 1/2.

FOREIGN MINES.—Akankoo, 2 to 3; Alamillos, 1 1/2 to 2; Almada and Tiritio, 2 to 3; Anglo-African Diamond, 3 to 5; Canadian Copper and Sulphur, 2 to 1 1/2; Cape Copper, 54 to 55; Central Jagersfontein Diamond, 2 to 1 1/2; Chile Gold, 2 to 1; Colorado United, 1 1/2 to 1 3/4; Cootacovil, 2 to 3; Copiapo, 3 1/2 to 4 1/2; Devala Central, 2 to 3; Devala Moyar, 2 to 3; Devala Provident, 1-16 to 3-16; Fortuna, 2 1/2 to 3 1/2; Frontino and Bolivia, 2 1/2 to 2 3/4; General Mining, 5 1/2 to 5 3/4; Hoover Hill, 1-16 to 3-16; Indian Consolidated, 2 to 3; Indian Glenrock, 2 to 3 1/2; Indian Phoenix, 15-16 to 11-16; Indian Trevelyan, 2 to 3; Kapanga, 2 to 3; Kimberley North Block Diamond, 5 to 6; La Plata, 1 1/2 to 2 1/2.

Linares, 3 to 4; Mason and Barry, 15 1/2 to 16 1/2; Mysore Gold, 4 to 5; New Quebrada, 4 1/2 to 4 3/4; Nouveau Monde, 2 to 3; Panulillo, 6 1/2 to 7; Rhodes Reef, 2 to 3; Rio Tinto bonds to bearer 99 to 101; ditto shares to bearer, 23 1/2 to 24 1/2; Ruby and Dunderberg, 1 1/2 to 1 3/4; Scottish Australian, 2 to 2 1/2; ditto new, 1 to 1 1/2; South-East Wynaad, 1 to 1 1/2; St. John del Rey, 160 to 180; Tambracherry, 2 to 3; Tharsis Sulphur and Copper, 38 to 39; United Mexican, 2 1/2 to 3; Wynaad Perseverance, 4 to 4 1/2.

Birdseye, 1 1/2 to 2; Organos, 2 1/2 to 2 3/4; Bratsberg, 1 1/2 to 2 1/2; the Mary Owen has arrived with 200 tons of copper ore and the Dizzy is expected with 190 tons. Another vessel is wanted to bring over at once 250 to 260 tons more. Orita, 1 1/2 to 1 3/4; Victoria Gold, 1 to 1 1/2; Yuba, par to 2 1/2; Michipicoten, 2 to 1; Placerville, 1 to 1 1/2; Gold Hill, 1 to 1 1/2; Brazilian, 1 to 1 1/2.

The Market for Mine Shares on the Stock Exchange is almost without business, and quotations are nominal. For the moment diamond mining concerns appear to be receiving some little attention, but they are not showing satisfactory profits, although some of them seem to be on the eve of doing so. Metals continue much depressed, and a further decline in the copper standard on Thursday, to an extent which represents more than 4d. per lb. on metal copper, is not encouraging.

Our usual telegram from Cornwall this evening says:—Up to yesterday the Cornish Mine Share Market was dull and depressed, but on tin becoming stronger a better tone was manifested, and an advance in tin standards is hoped for within a short period. At Truro yesterday 2627 tons copper ores realised 97497., standard declining 5s. 8s. At St. Just United the profit shown was 1717. This would have been much more, but dislocated ground had to be timbered. At West Seton a loss of 7477. was shown, prospects of mine being much improved. At Bedford United a loss of 4207. was reported, but the mine for the past month showed a profit. At Tregembo a debit balance of 18807. was shown, and a call of 10s. made. At Pedn-an-drea a heavy loss (24907.) was reported, and a call of 9s. was made. South Penstruthal has called up 6s. North Penstruthal 4s., and Old Gunnislake 1s. 6d. per share. The continued heavy rains are considerably affecting some mines, and cause inconvenience and anxiety to the managers. An important discovery is reported at Bedford United. At Levant forthcoming meeting a dividend is expected, and at North Levant a profit will be shown.

In Electric Light Companies shares there has been no material change in prices, and very few transactions. The question of the amount of danger attending the use of overhead wires for conveying sufficient current to supply electric lamps is receiving more attention, and it is generally believed that stringent measures will have to be taken to stop the practice. For telegraph purposes the current is so weak that life is not endangered; but the current used for illuminating purposes is so strong that sudden death (as at Hatfield House) results from touching the conducting wire. It is proved, moreover, that the use of the electric light does not give immunity from fire; but, on the other hand, unless the wires be carefully laid, they will actually ignite wood or other inflammable material with which they are in contact. It appears that at the Savoy Theatre, which was supposed to be supplied exclusively with electricity, their last winter's gas bill was some 7007. Truly, there is still much mystery to be cleared up with regard to lighting matters in order to give confidence to shareholders.

In connection with the Company Wreckage System, now so largely practised, shareholders cannot be too urgently cautioned against suffering themselves to be deceived by the egregious fallacy involved in the invitation of wreckers to join them, "on condition that you are personally put to no expense in the matter." The capitalist who connects himself with a public company without previous investigation as to its *bona fides* deserves to lose his money, because it is evident that he is culpably reckless, or that he subscribes without consideration of the value of the property to be developed, and solely with the view to pocket any profit that may be realisable by re-selling at a higher price; in the latter case he is not a mine adventurer, but a betting-man, and should be prepared for greater risks, because in each race one horse is sure to win. But whether he be reckless or disappointed in his betting operations, it is equally to his interest to avoid the professional wrecker, as these simply care to create law costs, and the shareholder is certain to lose all in the litigation, whilst it is possible that even an ill-constituted company may recover itself. Instances are not wanting of companies with but 15 per cent. of its capital expended, falling into the hands of wreckers and public accountants, who between them absorbed the remaining 85 per cent., though subsequent working proved that the property was capable of being brought to the dividend-paying state with a smaller amount than was appropriated by the wreckers and accountants. The moral is obvious. It is this unexpended balance that the wrecker relies upon to enable him to guarantee those to whom it belongs that they shall be "personally put to no expense in the matter."

Devon Great Consols, 4 1/2 to 5 1/2; on the issue of the half-yearly report, shares became flatter with several settlers coming upon the depressed market. The proceedings of the meeting are reported in another column. The credit cash balance for the half year, after charging and paying seven months' cost against six months' returns, was 16527. 11s. 7d., against 30377. 11s. 4d. for the corresponding period of 1881, thus showing a loss on the 13 months' working of about 1007. per month, which is accounted for by the low price realised for the copper ore for that period. The Chairman explained that this could not be considered an actual loss, inasmuch as fully the above amount had been spent in sinking two shafts, &c., and in making considerable improvements at the arsenic works, and from which the company will derive a future benefit. It will be satisfactory to the shareholders to learn that two months' sales of copper ore, since the closing of the half-yearly account, has realised about

45000l., which, with the proceeds of two months' arsenic, will leave a profit.

Devon Great United, $\frac{3}{4}$ to $\frac{1}{2}$; a full report of the half-yearly meeting held on Thursday will be seen in another column.

Drakewalls United, $\frac{3}{4}$ to $\frac{1}{2}$; the ground looks more favourable for tin driving east of Brenton's branches. Good progress is being made at different points of operation.

Mounth Bay, 13-16 to 15-16; nothing new to report, owing to the principal dealers in them being absent.

Tresavean, 1 to $\frac{1}{2}$; much firmer, with a decidedly buying tendency on the cutting of a valuable copper lode at the adit.

Old Shepherds, 1 to $\frac{1}{2}$; a very steady market on the cutting of the lode again at the 34 fathom level.

East Wheal Rose, $\frac{1}{2}$ to $\frac{1}{4}$; a rise of 5s. per share. There has been a good deal of excitement in the market on receipt of the news of Middleton's lode being cut.

South Devon United, $\frac{3}{4}$ to 1; the manager reports that the lode intersected in the cross-cut, north-east of Brook's shaft, is from 2 to 3 ft. wide, worth about 7l. per fathom. The progress made in both Pickstone's and Martin's shafts is satisfactory, and the machinery is working well.

Kit Hill Great Consols, $\frac{3}{4}$ to $\frac{1}{2}$; the half-yearly meeting was held at the company's office on Thursday and was well attended. A full account of the proceedings appears in another column.

Wheal Agar are quoted 17 to 18, but the quotation is said to be purely nominal, and no business is reported.

The permanency of the Comstock Mines has always been loudly questioned by practical men, and the accuracy of their views constantly receives additional confirmation. A San Francisco correspondent declares that the deep workings on the Comstock lode are to be abandoned, and attention turned to the low grade ore in the shallow workings; for this purpose large reduction works are to be put up, the necessary steps for obtaining the capital having been taken. The quantity of this low grade ore, which, however, would be called rich in many mining districts, standing in the upper levels is said to be enormous, and readily accessible; and this, it is argued, will pay handsomely under scientific treatment, though it has not paid to get it under the rough and ready methods hitherto adopted. Considerable quantities have, in fact, been raised in the course of excavation to the surface, and lie there as waste, but the bulk of the deposit is still in the earth. It will be remembered what alarm was caused in the silver market by the anticipations based on the argument that the arrangements for mining at still greater depths than had hitherto been attained had been completed. Practically exhaustive supplies of silver were promised. Should the rumour of the intended abandonment of deep mining be confirmed, the threats of a deluge of new silver which have been so prominent in the monetary discussions of recent years will lose much of their force, and the opinion of those who argued that the considerable increase in the output from the Comstock Mines would only prove a temporary phenomenon, will be again confirmed.

Richmond, $\frac{3}{4}$ to $\frac{1}{2}$; the telegram received on Tuesday states that the week's run was \$12,000 from 260 tons of ore, with No. 4 furnace. The refinery produced doré bars to the value of \$15,000. The superintendent's report states that the 300 south-east drift from south-west drift has been extended 11 ft. Total 153 ft. In hard favourable limestone, with occasional slips and cavities. The 300 south-west drift from station has been extended 11 ft. Total 208 ft. In very hard favourable limestone. The 600 north drift from 700 rise over "new find" has been run 28 ft. In limestone and ledge matter. The 800 west drift from north drift from quartzite has been extended 16 ft. Total 336 ft. In very favourable iron stained limestone with cavities. The 900 new north drift from west drift has been extended 17 ft. Total 276 ft. In very hard favourable limestone. The 900 east drift from north drift from west drift has been extended 23 ft. Total 240 ft. In favourable limestone, with occasional nodules of galena. The 900 north-west drift from north-east drift from east drift from station has been run 20 ft. Total 82 ft. In favourable limestone. The 1050 north-west drift from station has been extended 14 ft. Total 133 ft. In quartzite. Putting in tunnel sets for supporting ground throughout length of drift, hence progress retarded.

Ruby and Dunderberg, $\frac{1}{2}$ to $\frac{1}{4}$; it is reported that at the Dunderberg Mine the operations were chiefly in the ground between the 700 ft. and 800 ft. levels. The rise from the 300 ft. level had been stopped for a few days, while a chute and ladder-way were being put in. At the Home Ticket Mines there was an improvement in the face of the west cross-cut. The shipments for the week were—Dunderberg 16 tons, and Home Ticket 11 tons=27 tons.

Kobinor and Donaldson, $\frac{1}{2}$ to $\frac{1}{4}$; the resident director reports that the construction of the tramways for both the Champion and Donaldson mines is being speedily urged forward, and that Frue Vanning machines for the treatment of low grade ores are to be erected in a few days.

California Gold (of Colorado), 1 16th to $\frac{1}{2}$; the usual telegram from the manager at the mine, on Wednesday, states:—"Mill run (twelfth week), 284 tons; net value, 6000l." An important circular has been issued by the company announcing the purchase of the Hidden Treasure Mine and Mill, reference to which will be found in another column.

Schwab's Gully (De Biers Mine) Diamond Mining Company meeting, held at Kimberley, South Africa, on Oct. 24, is reported in another column. It appears that 18,446 loads of stuff were hauled in 70 days, and yielded 7552 carats of diamonds, worth 9794l. 12s. 3d. The directors carried 4006l. 16s. 8d. profit forward, but declared a 5 per cent. interim dividend out of profits since earned. The stock of blue on the floors on Sept. 30 was 18,755 loads. The prospects of the concern are considered encouraging.

Messrs. A. Ricardo and Co., the London agents for the Albert Railway Company of New Brunswick, have given notice that the coupon for the half-year's interest, at the rate of 6l. per bond on the 123,200l. Six per Cent. First Mortgage Bonds, issued by them and due Dec. 1 next, will be paid on and after that date at the Imperial Bank, Lothbury.

In Lead Mine Shares there has been absolutely nothing doing, and as the depression in the lead trade continues, the public are naturally indisposed to buy, even at great reductions upon quotations, which are merely nominal.

Tankerville Great Consols, 6s. to 7s. per share; it is said that a considerable number of preference shares have been applied for. "A further important improvement has taken place in the mines, especially in the 80 fm. level at Pennrley, where the lode is worth from 50l to 60l. per fathom, and it would appear that this rich deposit of ore is standing all in whole ground between the 60 or 70 down to the 120, and, consequently, this is a most important discovery."

Roman Gravels, $\frac{3}{4}$ to 10; the slopes are producing good returns of lead ore, and the mines are looking well throughout: 250 tons of ore have been sampled this week.

The Fish Supply Company's letters of allotment were posted on Tuesday.

British Silver-Lead: The eastern shaft and stope still continue worth 30l. per fathom each, and there is still nearly a mile on the run of the lodes in virgin ground, which will produce rich silver-lead.

Advices have been received from Col. W. M. Cochrane, the Deputy-Chairman of the Gold Hill Mines, dated from the mines on Nov. 3 and 6, in which he expresses his great satisfaction at all he had seen, which far exceeded his expectations, and that his conviction that the company possess the most valuable mining property in North Carolina, will be proved before Christmas.

The Jung Frau, with nearly 1000 tons of steel rails, sleepers, and materials for the extension of the North-Western of Uruguay Railway, sailed on Nov. 11 from Newport. The Roma is now loading at Liverpool with girders for bridges, &c. The Mirapore has been chartered to sail from Newport, and arrangements are in course of completion for the dispatch of another vessel.

At Truro Ticketing, on Thursday, 2627 tons of ore of 6 $\frac{1}{2}$ average produce, and containing 162 tons 2 cwt. of fine copper, were sold for 9749l. 2s. 6d. being 3l. 14s. 0d. per ton of ore, 12s. 3 $\frac{1}{2}$ d. per unit, or 60l. 3s. per ton of fine copper in the ore, and an average standard of 104l. 14s. Subjoined are the particulars of the two last sales:—

Nov. 2..... 1120 £108 18 0 6 $\frac{1}{2}$ £4 2 0 13s. 0 $\frac{1}{2}$ d. £65 4 0
" 23..... 2627 104 14 0 6 $\frac{1}{2}$ 3 14 0 12 3 $\frac{1}{2}$ 60 3 0

Compared with the last sale, the decline has been in the standard 5l. 8s. 0d., and in the price per ton of ore about 6s. 8d. The sales and amounts realised were:—Devon Great Consols, 915 tons for 2227l. 4s. 6d.; South Caradon, 500 tons for 2466l. 13s. 6d.; Gunnislake, 420 tons for 1895l. 13s. 6d.; Levant, 244 tons 1600l. 13s. 6d.; Marke Valley, 200 tons for 641l. 1s. 6d.; Gawton, 150 tons for 97l. 10s.; Bedford United, 116 tons for 526l. 6s.; Prince of Wales, 82 tons for 294l.

MINERS AND THE PROPERTY DEFENCE LEAGUE.—The principle of endeavouring to regulate everything by legislation is now carried to such an absurd extent that with too many members of the community all thought is concentrated not on the attempt to perform duties essential for the welfare of all, but upon evading or counteracting the innumerable and conflicting laws which have to be attended to. In a pamphlet, entitled Why Mineowners should join

the Liberty and Property Defence League, Mr. Wordsworth Donisthorpe gives some very sensible advice as to what is required to bring about a better state of things. The offices of the League are at Westminster Chambers, and both mineowners and miners will do well to make themselves acquainted with its character and objects. The pamphlet can be usefully studied by all classes.

ORITA GOLD.—It is announced that the machinery for the working of this company's mines will be dispatched from this country during the early part of the coming month. It will take some six or eight months to erect, but the shareholders probably will not mind such delay, as the success of the Colombian Hydraulic Company is considered practically to render that of the Orita certain. According to the last report, the Colombian Hydraulic made a profit of nearly 10000l. for August, and since then, advices have been received that the profit for September will prove nearly, if not equally, satisfactory. The Colombian Hydraulic Company's Mines adjoin those of the Orita, both properties being situated upon the same extensive gravel deposit. This deposit has been worked for years, and has always produced about the same average amount of gold, while in all parts of the two properties it appears to be of exactly the same character. Under these circumstances, the profits of the Colombian Hydraulic, and of the Orita, also depend more upon good management and the amount of water that can be brought to bear in washing the gravel than anything else.

ORGANOS GOLD.—The usual monthly mail from the United States of Colombia is expected early in the coming week, and it should bring advices of the second crushing of the quartz at the Organos Mines. The first crushing, it will be remembered, yielded an average of 1 $\frac{1}{2}$ oz. to a ton, a rate which would render the mines most profitable, and permit of the payment of very large dividends. The second crushing will, it is believed, yield a much higher average and is looked forward to, with great anxiety.

BRATSBURG.—The Mary Owen has arrived with 240 tons of ore, and the Dizzy is daily expected with 190 tons. They are looking out for another vessel to bring over at once a further 250 tons. The mines continue to look exceedingly well.

SENTEIN.—These shares are now quoted at 1l. to 1l. 5s. by some of the London morning papers, and it is stated that a capitalist who has visited the Pyrenees has been buying up the shares. It is added that several transactions have just taken place in them at par (1l.) and a premium. The monthly output of ore is being steadily maintained, notwithstanding the inclemency of the weather in the Pyrenees. Upwards of 400 tons of silver-lead alone has been prepared for market within the last four months irrespective of an enormous quantity of zinc.

DEVON FRIENDSHIP.—The new winding machine for hauling greatly increased quantities of ore is expected to be at work next week. They will then be able to dispense with the Robey engine, and save full 16l. per month in coal, as the new machine will be worked by water-power. The additional dressing machinery is also being rapidly proceeded with.

OLD SHEPHERDS MINES.—Last week reference was made to the cutting of the lode at the 26 fathom level; this week the same lode has been cut at the 34 fathom level. It appears to be equally good, and strongly indicates a continuance of the lead as each level is gained, and this is now being rapidly accomplished. It would appear all that now remains to be done is to clear the levels, ventilate the mine, and large returns of silver-lead should follow almost immediately.

TRESAVEAN MINES.—The report from these mines is published in another part of the Journal. On reference it will be found the various points are looking better than ever, and it appears, too, Caddy's lode is just cut rich for copper and tin. It is proved to be 300 fathoms in length, and stands intact from surface to the 310 fathom level—"a mine in itself."

GREEN HURTH.—This mine continues to give good returns—about 100 tons of lead ore per month. The Swan shaft is now sunk to 45 fms., the ore continuing good to this depth, thus insuring good returns for a long time to come. Notwithstanding the low price of lead and the unusually heavy outlay for machinery, sinking the shaft, &c., a dividend of 5s. per share has been paid this month, being the third dividend this year of the same amount.

MOUNTS BAY CONSOLS.—The reports from the company's mines are of great importance and are considered to point to the certainty of something very good in a short time. As will have been noticed from time to time, the Sydney Cove Mine contains about 20 lodes, all rich in ore, containing tin, copper, and lead. To-day it is stated that at Pembro Mine, in the cross-cut driving to cut the lode, copper has just been met with, and it is believed the lode is very near. This, it is considered, is an important point. At the Trebarvah Mine, also held by this company, we hear the lode may be expected to be cut any hour.

BEDFORD UNITED MINES.—We are requested to state that the paragraph in the Mining Journal last week respecting the accounts presented at the meeting last Thursday was somewhat misleading, inasmuch as in addition to the cash balance at banker's of 781l. 2s. 6d. there was 516l. due for ores sold, about 200l. owing for calls, and ore and mundic at surface to the value of 660l., thus leaving after payment of all liabilities a balance in favour of the company of about 1400l.

TREVARREN.—One portion of this mine returned about 6 tons of tin last month, making the high price of 61l. per ton, and it is stated that the mine is still further improving:—"From such comparatively small workings the yield of tin is remarkable, and appears to leave no doubt of early and satisfactory results."

BWLCH.—The 100 fathom level west is still improving, now yielding good saving work for the dressing-floors. Specimens from the forebreast can be seen at the company's offices, taken out on Tuesday last. There are 50 fathoms of backs at this point and great deposits of ore were discovered over this level from the 50 to surface.

WEST GODOLPHIN.—The excellent appearances of the new lode mentioned in last report are such that it is deemed advisable to commence a shaft so as to strike the lode in settled rock. The said shaft is now down 2 fathoms and the shelf of the rock reached; in about 3 fathoms more sinking the lode will be met with. A few hundredweights of stuff taken from the shode pits have been carefully sampled, and from assay give 2 per cent. of tin.

SORTRIDGE.—The stopes in the 30 continue worth 12l. per fathom. The stamps are working well, and the agent states are "turning out a rare good van of tin. The buddles, catchpits, and dressing-floors will soon be completed, when we shall be in a position to make good returns of tin. I am pleased to say that everything is going on in a most satisfactory manner, and the patience of all the shareholders will soon be rewarded by actual results."

EAST CARADON.—The various points of operation continue to improve, and present indications of better days in store. The branches passed through in the 130 cross-cut will come together and form one lode in driving west away from the cross-cut. This in itself is a valuable lode, worth 1 ton of rich copper ore per fathom, and is in whole ground to the surface. The appearance of the cross-cut gives evidence of yet another lode ahead. This mine should be carefully watched, as there is little doubt old times will be revived, when dividends at the rate of between 25,000l. and 30,000l. per year were being paid to the shareholders.

EAST WHEAL ROSE.—The latest from this mine is probably the most important event reported from Cornwall for many years. The celebrated Middleton's lode has been cut in the new ground, and has, it appears, a run of nearly half a mile, is standing whole from surface down. The same lode in the central part of the mine (north of this point) from a similar length has already produced 1,000,000l. worth of silver-lead, and the continuation of it in an adjoining mine south of it from a very short run has produced 80,000l. worth. The part just cut is between these two points, and we hear on good authority there can be no shadow of doubt this section will be equally productive with the central ground. It is understood that Old Shepherds lodes, too, can be traced into and through East

Wheal Rose sett, and from a short run in the former mine sufficient ore has been raised to pay 240,000l. clear profit. There is said to be large buying on the Stock Exchange to-day at advancing prices.

CARN CAMBORNE.—The south lode in the 95 fm. level is 3 ft. wide, and the manager states that it is as promising a lode for producing large quantities of copper ore of rich quality as he has ever seen. The north lode in the 40, west of the engine-shaft, has never looked so well as it does at present.

WEST LISBURN SILVER-LEAD MINE.—A boulder of silver-lead ore weighing over 1000 lbs., can be seen at the company's office, Great Winchester-street. This specimen is of a rare occurrence, and is seldom or ever met with except it is accompanied with large returns of ore, it being an outcrop caused by volcanic action from the lode. This was taken 35 ft. from surface in the shell, and are daily expecting to meet with the solid solid rock.

LEAD ORES.				
Date.	Mines.	Tons.	Price per ton.	Purchasers.
Nov. 3—Powell	20	£ 8 15 0	Goodhart and Co.
14—Great Dylliff	32	9 6 0	ditto
18—New Van Consols	35	8 16 0	Nevill, Druce, & Co.
20—Pierrelite	10	19 0 0	Quirk, Barton, and Co.
21—ditto	10	19 0 0	Richards, Power, & Co.
21—Foxdale	120	11 9 6	Goodhart and Co.

BLENDE.				
Date.	Mines.	Tons.	Price per ton.	Purchasers.
Nov. 3—Powell	27	£ 3 12 6	Swansea Vale Co.
14—ditto	9	2 7 6	ditto

Frongoch has sampled 200 tons of blende, for sale next week.

C. PASS AND SON, BRISTOL,
ARE BUYERS OF
LEAD ASHES, SULPHATE OF LEAD, LEAD SLAGS,
ANTIMONIAL LEAD, COPPER MATTE, TIN ASHES, &c.,
and DROSS or ORES containing
COPPER, LEAD, AND ANTIMONY.

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COAL MINES REGULATION ACT, 1872.
EXAMINATION FOR MANAGERS' CERTIFICATES OF COMPETENCY.
DISTRICT UNDER THE CHARGE OF JOSEPH DICKINSON, Esq.,
H.M. INSPECTOR OF MINES.

NOTICE IS HEREBY GIVEN, that an EXAMINATION for
MANAGERS' CERTIFICATES OF COMPETENCY, under the above-
named Act, will be HELD on the 21st day of December, and CANDIDATES
INTENDING TO PRESENT THEMSELVES AT SUCH EXAMINATION must,
on or before the 16th day of December, notify such intention to the Secretary
of the Board of the above-mentioned District, from whom all information as to
particulars can be obtained.

By order of the Board,
MASKELL WM. PEACE, Secretary.
King street, Wigan.
N.B.—Persons who do not reside within the District are equally eligible for
examination with those who do.

THE ALBERT RAILWAY COMPANY OF NEW BRUNSWICK
£123,200 Six Per Cent. First Mortgage Bonds, in 616 Bonds
of £200 each.
Notice is hereby given, that the COUPON for the HALF-YEAR'S INTEREST,
due 1st December, 1882, viz., SIX POUNDS PER BOND, will be PAID on and
after that date at the Imperial Bank (Limited), 6, Lothbury, London, E.C.
The Coupons must be left three days for examination.
A. RICARDO AND CO., London Agents
for the Albert Railway Company.
11, Angel-court, Throgmorton-street, E.C., Nov. 23, 1882.

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Offers FOR SALE the undermentioned, all or part, at annexed prices:—
200 Bwlch United, 12s. 6d. 50 Langford, 10s. 3d. 200 West Lisburne, 13s. 6d.
80 Cootacovill, 15s. 30 New W. Caradon, 10s. 3 200 West Devon, 10s.
300 Chontales, 2s. 6d. 100 Parys Copper, 7s. 6d. 600 West Crebor, 12s. c.p.
100 Devon Friendship, 7s. 50 Port Phillips, 3s. 9d. 50 Wheal Crebor.
40 East Blue Hills, 10s. 40 S. Devon United, 15s. 6 100 Victoria (London),
50 East Craven Moor, 10s. 300 Silver Hill, 5s. 6d. fully paid, 5s.
MOXA CONSOLS (Limited).—Recommended by me upon the satisfactory
reports received from the mines, and I am of opinion that are long shareholders
will be startled by such discoveries as will cause great animation in the district.
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Deals in all descriptions of STOCKS and SHARES at close market prices.

Notices to Correspondents

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

GEOLOGY AND MINES OF SPAIN.—In reply to "Student's" enquiry, in the *Mining Journal* of Nov. 4, as to Mr. Stuart Menzies's contribution to "Foreign Countries," the publishers are Sampson Low and Co., Fleet street.

HUNGARIAN COPPER COMPANY.—"J. M." (Anstruther).—The address of the London office is 5, Cophall Buildings, E.C., and Mr. H. L. Phillips is the managing director.

COAL-CUTTING MACHINES.—Makers might do some business by sending a descriptive catalogue to the Utah-Wyoming Improvement Company, Hilliard' Wyo, U.S.A. The seams are one soft 30 ft. thick, another hard and clean 15 ft. thick, and at 60 ft. from surface. It is thought that the coal could be best sawn out, with compressed air to drive the machine.

LAND AND BUILDING SYNDICATE.—"A. W. T." (St. Andrews) complains that although his letters to the London office are not returned, he can obtain no reply either from the secretary or solicitor; of this he has certainly no reason to complain if he be not a shareholder. The complaint with regard to many concerns which never get beyond the embryonic state is that subscriptions are received and not returned so quickly as they should be. Those who are so over-anxious to obtain exorbitant interest for their money almost invariably lose capital and interest too.

ZOOLOGICAL SPECIMENS.—Priced catalogues are asked for, for zoological specimens suitable for a museum in a Western U.S.A. University; also of charts used for teaching natural sciences.—S.: Columbia, Oct. 31.

Received.—"R. C." (Kimberley, South Africa).—W. Rose (Tombstone, Arizona).—"E. B. S." (Hilliard, Wyo.).—"Shareholder" (Coplano).—"Shareholder" (Wye Valley).—"Constant Reader" (Silver Peak).—"L. W. B."—"F. S."—"Stannum." See report in another column.—"W. R."—"Shareholder" (Tincroft).—"J. W." (Hull).—"Shareholder" (Devon Great Consols).

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, NOVEMBER 25, 1882.

LIMITATION OF THE PRODUCTION OF COAL. CONFERENCE AT ROTHERHAM.

Emboldened by the success which attended the agitation for an advance of wages, those leaders of the miners who carried on the movement now consider that they are in a position to declare what amount of coal shall be raised at the various mines, and how long the men shall work, any right of the employers to have a voice in the matter being simply ignored. For this state of things some of the mineowners have only themselves to blame, and this is the feeling of a large number of the colliery proprietors in the West Riding of Yorkshire, who held out to the last against conceding an advance totally unwarranted by the state of trade and the price of coal at the pits. But the action of some of their body in Staffordshire and Derbyshire forced them to come to terms with the men—in fact, to give them the 10 per cent. they agreed to take. In many districts the employers were prepared to make a stand, and if those in the others had shown a like disposition and given 5 per cent., which is really more than could be afforded, there is very little doubt it would have been accepted, work would have been resumed, for the men had no funds whatever to fall back on, and the question of restricting the output would have been shelved for a considerable time at least. Not that it is likely to be carried out, for that appears to be all but impossible, but in some instances it may lead to complications and differences that may for a time be disadvantageous to those employers whose men may attempt to carry out the decisions come to by the congresses that have been held specially for the consideration of the subject of restricting the production of coal. But it remains to be seen whether any number of owners of coal mines will give up all control of their pits and the mode of working them, and quietly hand over the powers they have exercised as proprietors and capitalists to the men they employ. Although we do not believe that the great body of working miners are in favour of restriction, but just the reverse, yet there may be men willing enough to attempt the carrying out of the instructions received from the Conference as well as from the associations some of them are connected with. When this takes place, it will in all probability be attempted in those districts where the masters gave the increased wages almost as soon as they were asked for, under the belief that they will again take the initiative in a movement that, were it carried out, would place the property of mineowners entirely at the mercy and under the control of their employees. We think we need scarcely say that the course that is likely to be initiated and carried out by those employers whose men first made the attempt to limit the output of coal, and place those who have to find the wages for them in the most humiliating of positions, will be watched with no ordinary interest, not only by mineowners throughout the kingdom, but by all persons who are employers of labour. By the result will be seen whether there are any colliery proprietors who will allow their men to dictate to them as to whom they shall employ, how long their engines shall be kept going, and what the daily output of coal shall be; also will the giving way of a few of the masters lead to others being attacked as they were in the wages question. If such should be the case, we may expect to see a struggle of no ordinary magnitude; but the miners themselves, we fancy, taking them as a body, will be found to rebel against receiving less wages, after having a 10 per cent. advance conceded to them, than they had before. Already many of them say that they do not wish to work less hours, but to receive more money. But they are asked to receive less money for some time to come, in order that they may obtain more in the future. Miners, however, look more to their present wants than to the promise of future advantages, the realisation of which are problematical.

Yet these are the inducements held out to them at the Congress which was held at Rotherham on Monday. The miners were told that after receiving an advance of wages to the extent of 10 per cent. they would not only have to forego that, but to be content with receiving less than they did before the advance was granted. Such is the only inference that is to be drawn from the principal resolution passed at the Conference, which was as follows:—"That the delegates be empowered by this Conference to try and secure a general regulation of labour at the forthcoming Conference at Leeds, and that the same be as follows—five days per week and eight hours per day." If this is carried out then a miner who before the advance received 30s. per week would have to be content with 27s. 6d., with the advantage of eight hours' extra playtime. Yet one of the principal arguments adduced during the agitation for an advance of wages was that great numbers of the miners were not receiving sufficient money to maintain themselves and their families even with ordinary necessities. But now this argument has been abandoned, and the men are asked to accept still lower wages. The strength of the non-Unionists, it may be said, was enlisted in favour of the wages movement, and numerically they are five or six times stronger than the Unionists, and these are not likely to forego the advantage already obtained for the promised one that may never come to them. At many of the mines in Derbyshire, Yorkshire, Lancashire, as well as in other districts, during the summer months the men were working only three or four days a week, and no doubt they got into debt, so that many of the men have been looking forward to the advance given and full time as well for the purpose of clearing off these obligations and also for getting the necessary clothing for their families, so that for these, as well as for other reasons, they are not likely to fall in with the views of those who are desirous of trying the dangerous experiment of restricting the production of coal on a large scale. Indeed, the scale on which it is proposed to carry out the views of some of the delegates seems to be a vast one, for Mr. PICKARD, one of the principal movers in the late agitation, remarked on Monday that although the newspapers were against them, or at least did not agree with them, he considered that if they lessened the output of coal by about 24,000,000 tons per year, their wages would go up instead of down. But admitting, for argument sake, the possibility of this, he did not state what effect such restriction

would have on the general trade of the country, or how many thousands of male and female operatives would be thrown out of employment by such a policy. Happily, however, such a state of things cannot well arise, let the delegates do all in their power to carry it out. But the attempt may result in a manner that may be prejudicial to the future interests of the miners themselves, those who are in favour of restriction as well as those who are not.

In the event of the restriction being attempted at some mines it will make it much better for others, for there are no means by which men who are willing to work cannot make a couple of shifts daily, as they have lately been doing at several places. In the North of England the men are working as usual, and have had no connection with the recent movement, their wages being regulated by a sliding scale agreed upon by masters and workmen, and the same is the case in other parts of the country. But there is another matter which has been overlooked by those who have tried to make the miner the great factor in connection with the coal question, but which promises to become a most important one—that of coal-cutting machinery. During the last two or three years machinery for cutting coal has been making considerable progress, and this week we are informed by one of the best known patentees that he has several of them now being tested in various parts of the country, whilst others have been constantly at work for some years. The present movement may therefore, if persisted in by the leaders in any one district, be of no little benefit to inventors of machinery for getting coal, whose efforts have certainly not been appreciated or supported by mine owners as they deserved to be. But the latter have been desirous of keeping on good terms with the men, who, as might be expected, are greatly opposed to what they term "the iron man." But mine owners are not now likely to have so great a desire to do anything that might not be strictly in accordance with the wishes of those they employ as they were formerly, so that there is every probability that the attempt to dictate to the masters how they shall work their mines may result in the adoption of mechanical appliances which will make them less dependent on manual labour than they have hitherto been. When the agitation for an advance of wages was at its height we remarked that there was no likelihood of a strike taking place, although we did not at the time think that some of the colliery proprietors would so readily make the concessions they did. We have now, however, stronger reasons for believing that the attempt to limit the production of coal will be a great failure, as it deserves to be. But the course pursued by those owners at whose mines it may be attempted will be well worthy of close observance.

NEW SAFETY-LAMPS AT THE OCEAN COLLIERIES.

The Ocean Steam Coal Company's collieries are situated in the Rnabon and Ognore Valleys, Glamorganshire, five in number. They give work to about 5000 men. Mr. William Jenkins, the general manager of these vast industrial hives, and Mr. David Morgan, lampman at the Cwmdare Collieries, has just patented, after thorough satisfactory test by the Royal Mines Accident Commission, three important safety-lamp improvements. The first of these is an improved ordinary Clanny lamp made non-explosive in an explosive mixture, by means of metal tubing inserted inside the gauze. The combustion of the flame is supported by the admission of air through slots in the lower ring on which the glass rests. The second invention is also a Clanny lamp improvement, effected through the insertion of a tin tube into the top end of the gauze; this comes down to the upper glass ring within three-eighths of an inch. Here the combustion of the flame is supported by drawing the air in through a space immediately above the glass. Both these improved safety-lamps are intended for ordinary use in collieries by the workmen, and are, in fact, at present in partial use at the Ocean. The third improvement applies to the Davy lamp. In this instance, again, the lamp is rendered non-explosive by inserting metal tubing inside the gauze; an excision is made opposite the flame. The tube acts, too, as a reflector, and renders the lamp, it is represented by the patentees, quite safe. This lamp is designed for official use only. The two first lamps go out in an explosive mixture; the third lamp remains alight. At the Llynypia experiments the Royal Commissioners failed to explode one of the lamps. A considerable array of evidence is, by the way, being prepared in the Rhondda for production next week before the Commissioners against the Mueseler lamp. Mr. Abraham, the district agency, will accompany the witnesses, as will also the inventor of the Ynystir safety-lamp, recently described in our columns.

RAILWAY PROGRESS AT THE ANTIPODES.

We have more than once observed that the Australasian colonies are valuable clients of the British iron trade. We need not now enter into statistics as to the exports of our railway matériel to those interesting settlements this year; but it may be well to recapitulate the progress made in each of our Antipodean settlements in the important work of railway development. At the close of 1881 Victoria had 1247 miles of line in operation; New South Wales, 996 miles; Queensland, 800 miles; South Australia, 832 miles; Western Australia, 92 miles; Tasmania, 172 miles; and New Zealand, 1287 miles, making the aggregate length of Australasian railways at work December 31, 1881, 5426 miles. The activity with which constructive operations were still being pressed forward at the same date will be seen in the fact that at the close of last year Victoria had 159 miles of new line on hand; New South Wales, 573 miles; Queensland, 233 miles; South Australia, 161 miles; Western Australia, 20 miles; Tasmania, nil; and New Zealand, 171 miles, making an aggregate of 1317 miles of line in course of construction Dec. 31, 1881. As at least half this new mileage will probably have been constructed by the close of this year, we may assume that the Australias have now 6000 miles of railway at work. This, no doubt, is a considerable result to have been attained by a group of settlements which still comprise only about 3,000,000 inhabitants. But the extent of Australia and New Zealand is so great that it may fairly be said that even now only a small beginning has been made with the construction of the railways which are imperatively required to open out the full resources of the great island continent and the neighbouring dependencies. Victoria is one of the smallest of the Australasian colonies, and has the largest extent of mileage at work, so that Victoria may probably be said to be pretty well supplied with railway communication. But the case is far different with New South Wales. Although Queensland was sliced away from New South Wales in 1859, the former is still a colony of great extent, and the 996 miles of New South Wales railway in operation at the close of last year were totally inadequate to supply the requirements of the colonists. The same may be said of the 800 miles of line in operation in Queensland at the close of 1881. The population of Queensland is much smaller than that of New South Wales, but the extent of the colony is so great that to fully open up its resources several thousand miles of line are really required. In South Australia and Western Australia there is also great scope for the labours of the railway engineer; in fact, considering the enormous area of Western Australia, that comparatively little unknown settlement can scarcely at present be said to have any railways at all. New Zealand has exhibited a considerable amount of vigour in connection with the establishment of railways; but the North Island is still without a great trunk line, although one is in contemplation. It is affirmed that New Zealand can accommodate a population of 14,000,000. It will be long before such a mass of human life has accumulated in the two islands; but we may depend upon it that when it has been brought together there will be a much more extensive network of New Zealand railways than at present.

It appears to us, then, that there is a strong probability of an important demand prevailing for our railway matériel for some years to come on Australasian account. There is no doubt coal both in Australia and New Zealand, and we have all of us heard of the Taranaki iron sand, and also of the existence of ironstone at various points in Australia. But it has not been found practicable to develop metallurgical industry at the Antipodes with economic success, and this may probably continue to be the case until labour has become sensibly cheaper, and until means of communication are much easier than they are at present. The main industry of the Antipodean colonies has, thus far, been the production of wool. There may be a limit to the development of this industry, and the

Australias may find it necessary to apply their energies to other pursuits; but it appears to us that the establishment of a vigorous metallurgy in our Antipodean settlements must still be regarded as a comparatively remote result.

THE PROPOSED TREVITHICK MEMORIAL.

The proposition put forward by the *Mining Journal* for a Trevithick Memorial has already met with a hearty response. What will be considered not least gratifying is that this is not confined to Cornwall and Devon, but comes also from other parts of the country. On the other hand, Cornishmen have plucked up courage and gone even beyond our suggestions. They claim, and justly, that the memorial in the main shall be of a national character, and shall place a statue of Trevithick in its right place alongside Watt and George Stephenson in Westminster Abbey. It is by no means unlikely that this may be largely accomplished by the efforts of followers of Stephenson, because it is felt to pay tardy honour to Trevithick and not to lessen the just claims of Stephenson. England will learn that she has a hero of invention the more. We should not even be surprised if there should be more than one local memorial of RICHARD TREVITHICK, though Cornwall would naturally be expected to be foremost. The matter will evidently require, under this expansion of object, wide and careful organisation, but already liberal allowances of support have been given. Capt. Davis, of Edinburgh Mansions, Victoria-street and St. Stephen's Club, is kindly acting as Honorary Secretary.

THREATENED STRIKE AGAINST SAFETY-LAMPS.—Amongst the many grievances that miners complain of we seldom hear of them protesting against the adoption of measures that are solely intended for their own safety. In some districts the men refuse to work with open lights, knowing that they are most dangerous, especially in the working of certain seams of coal that give off even a small quantity of gas. In fact, nearly all beds of coal give off gas more or less, but in several of these lights may be used without running much risk, although even in some of them the "wolf" comes unexpectedly, and of course destroys everything in his course. At a large colliery, near Leeds, where naked lights were formerly used, the men have just complained to the officials of the association to which they belong, that they have been compelled to use safety-lamps instead of the old lights, and for this change they say they have not been offered any extra payment. At one of these pits the well-known Silkstone seam of coal is worked, and it is known to give off a good deal of gas, and has been the cause of several explosions of a fatal character. Yet the men actually complain that their employers have taken precautions to prevent accidents and loss of life in their mines, and for this the men consider they should receive a premium. Singular to say, too, this view of the men's rights is held by the leaders and supported by them, and it is by no means unlikely that a strike will take place against the use of safety-lamps in mines that are known to be sufficiently gaseous as to be dangerous. It is true that the safety-lamp does not give such a good light as a candle or the ordinary open lamp, yet it has been the means of saving thousands of lives, whilst the other has sacrificed tens of thousands. Yet with this knowledge the men at some mines are prepared to risk their own lives for a system by which they can get a few more pence daily. Acts of Parliament have been passed to compel mineowners to do certain things to ensure the safety of their workpeople, but it is evident that the latter, or some of them at least, require more stringent laws than are now in existence for their own protection. When miners are prepared to strike against the use of safety-lamps, and are supported in doing so by their associations, one may well ask—What next?

COAL DEPOSITS OF THE UNITED STATES.—This subject is now attracting much attention in consequence of the discovery of rich seams of coal in the Southern States. Not long ago the great Pennsylvania fields enjoyed the monopoly of the coal deposits of the country, but they will soon be completely overshadowed by the coal deposits discovered in the four states of Kentucky, Tennessee, Georgia, and Alabama. These States contain together nearly 15,000 square miles of the finest bituminous coal territory, or nearly four times that of like deposits in Pennsylvania. Texas also is said to contain 6000 square miles of bituminous coal fields, and soft coal veins of excellent quality are already being worked in the Indian Territory, in Kansas and Missouri. The mines of the Osage Coal and Mining Company, situated at Macallister, Indian Territory, are among the best in the country, the coal being quite free from impurities, and in quality greatly resembling the English Cannel. The coal is already in strong demand over all the adjacent railways. The great Missouri basin in which the deposits are found is estimated to cover 84,000 square miles of territory. The Appalachian coal fields extending south are narrower in crossing Kentucky, but widen again in Tennessee, and expand across the north-west corner of Georgia, and into Alabama, terminating in the vicinity of Tuscaloosa. Tennessee and Alabama have largely developed their coal resources, and some investigators claim that Alabama has enough soft coal to supply the country for a century.

THE IRON AND STEEL TRADE IN AMERICA.—A better feeling is reported in the iron and steel industry, because the Lackawanna Iron and Coal Company have announced that it had closed a contract to deliver 20,000 tons of steel rails to Vanderbilt at \$40 per ton. This is equal to \$42 delivered at New York. The former price was \$45. The company say the cost of production is over \$40, but they hope to lower it by a reduction in wages and cheapening of the material. The action is taken as an indication of a general purpose to lower prices, in order to stimulate demand and keep the mills running. Some manufacturers say there is a margin for \$8 profit at \$40, and that the Bessemer men heretofore were making great profits. The tariff on steel rails is \$28 per ton. It is reported that the Tariff Commission, which has just completed its labours, will recommend a reduction to \$22½. Several Congressmen announce that they propose a reduction to \$14, and the railroad authorities contemplating such a possibility have not yet bought rails for next year. If such reduction be made they will buy English rails, which are considered better than American.

THE IRON TRADE.—The award of Sir J. W. Pease, the arbitrator in the wages dispute in the North of England manufactured iron trade, has been made. The decision is in favour of the employers' claim for a reduction to the extent of 5 per cent. on all ironworkers' wages to commence from the 25th inst., and to last till the end of February. The decision is based on the ground that the prices of iron are lower than the average for December for contracts in hand at the date of the former award. He strongly advocates a sliding scale.

COAL FIELDS OF INDIA.—THE KISTNAH DISTRICT.—Within the last few days General Francis Applegath has received a letter from a Madras brother officer who was doing military duty in the Kistnah district at the actual time of General Applegath's original discovery of the coal, and he states of his own knowledge "that the coal was *in situ*, undoubtedly; that he saw the quarry or spot from which General Applegath had excavated the coal; and that he saw the coal, and burnt it in his own house." With reference to this testimony he naturally asks—"Now what becomes of all the false statements and wrongful assumptions of the Indian Geological Superintendents?" He adds that he has reported all this to the Secretary of State for India, at Westminster, and it is to be hoped that his claims will receive the attention they deserve.

COPPER MINING IN NORTH WALES.—The copper lodes of North Wales appear to be now attracting the attention of capitalists, and several mines have either been started or are on the eve of doing so. It does seem strange that within the limits of our own island such unquestionable advantages and opportunities for the profitable employment of capital should have remained so long comparatively neglected. If such mineral properties moderately authenticated were discovered in Africa, multitudes would be eager to embark their capital in what they could never examine either personally or

I may also add that it produces a great deal of lead, and not an inconsiderable quantity of copper. The mining industry of this country is, for the most part, in the hands of individual miners and private local associations, and evidently it is fast becoming to be understood as a thoroughly legitimate investment and business. The wild speculative spirit, incidental to the early history of mining camps, has given place to comparatively sober and business-like habits, and the result is general prosperity.

CAMPIGLIA MINING DISTRICT—No. 1.

By BRENTON SYMONS, F.C.S., Assoc. M. Inst. C.E., &c.

The mines composing this district are found at the southern extremity of a spur of the Apennines, which descends from Monte Calvi to the west coast of Italy, a few miles north-east of the high promontory on which was seated the ancient city of Populonia. Some interesting ruins still remain to indicate the site of the capital of the once powerful Etruscan nation, whose industrial and commercial activity was excelled by no country of olden time. Immediately opposite, at a short distance from the coast, is the mountainous Island of Elba, historically famous as the exiled home of Napoleon the Great before the "hundred days," now commercially renowned for its production of hematite. The Government iron mills of Fallencia, favourably located on the neighbouring coast, are supplied principally from the Elba iron quarries; in addition, some 300,000 tons are yearly purchased by the enterprising firm of Hollway Brothers. The nearest railway station is San Vincenzo, a small village built on the shore of the Mediterranean, 40 miles from Pisa on the railroad to Rome.

Many vast caverns, with countless small shafts and shoal pits bear witness to the activity displayed by the former inhabitants in their search after the metallic wealth hid in the marble rock, and in the extraction of the ores from the cavernous deposits of Monte Rombolo and Monte Valerio. The metals mined seem to have been lead and tin, and to a limited extent also copper. It is sufficiently evident that no attention was given to the raising of iron oxides, which were found everywhere accompanying the ores of the higher metals, and which filled the numerous irregular fractures existing all over the district, many, indeed most, of which were clearly discernible at the surface. The mines are dispersed amongst mountains consisting principally of metamorphic limerock, stretching nearly north and south in a direction parallel to the coast. On the east the mineral region is defined by the Cornia, a considerable stream which has eroded its bed through eocene strata, and after crossing the fever-stricken alluvion plains of Campiglia, falls into the bay between Piombino and Follonica. Northward the range continues beyond the River Cecina, but the rocks lose their metamorphic character, gypsaceous shales and sandstone replacing them. Thus the district may have a meridional extension of 12 to 15 miles, with a breadth of about five miles. Outside of this area are found both secondary and tertiary strata, on which metamorphism has left no marked mineral characteristics. The whole surface is much accidented, the abrupt conical and rounded hills being numerous and elevated, the ravines and rivulets rugged and precipitous, whilst the mountain crests are frequently crowned by bald and serrated escarpments of white saccharoid or flaky marble, which support but a scant vegetation. Toward the valley bottoms, the slopes becoming less rapid are clothed with a short dense scrub, known locally as "macchia," consisting of juniper bush, with green oak coppice, much tangled together by brambles, through which it is often absolutely impossible to force a passage. Surface prospecting is consequently attended with considerable discomfort and difficulty, and is made sufficiently fatiguing by the numerous profound valleys, separated by ridges rising from 1200 to 1500 ft. above them. The various spurs forming the district radiate from Monte Calvi, a mountain which reaches a height of 3000 ft. The rivulets born amongst its spurs have but a short course, and the nature of the strata, together with its want of vegetal protection, permitting the rainfall to reach the valleys quickly, there is a great scarcity of water during most of the year, consequently there is little or no water-power available for driving any machinery.

GEOLOGICAL STRUCTURE.—The deposits of the useful minerals are confined to a broad belt of bedded metamorphic limerock, whose altered condition and dislocated character has been produced by an eruption of eurite or granulite, which, though rarely breaking through the surface of the district, is yet found covering many square miles immediately to the north, with eruptive rocks resembling trachyte. In the valley leading from Monte Romboli to Campiglia denudation has exposed a mass of eurite about a mile long, having a breadth of some 500 yards. The principal disturbance in the district has evidently taken place on the Lanzo Estate, where two strong elvan courses or dykes have broken through the marble beds for a width of from 30 to 40 yards. They take a direction nearly meridional, and have been clearly traced northwards into the mineral lands of Count Alliata, and southwards as far as the copper mine of Temperino, a total length of two miles. These dykes are also of granulite, consisting of white quartz and felspar of medium grain, and the conditions under which they are recognised seem to furnish indications that the calcareous beds resting on the eruptive rock are not of very considerable thickness. The limestone beds follow approximately the general slope of the axis of elevation, and thus dip toward the coast and eastward to the River Cornia. On the summit ridges the marble is often reddish; lower down it becomes saccharoid, and is quarried for export, whilst on approaching the valleys it becomes prettily striped, owing to an admixture of aluminous matter, and is worked into chimney pieces and ornaments under the name of bardiglia. Finally, near its junction with the eruptive rock, the bedding becomes obscure, and the ordinary appearance of highly metamorphic limerock is recognised. These altered rocks have been considered as Lower Lias, and are so coloured on the geological maps published. On them rest at a moderate angle beds of the same age containing ammonites, followed by Upper Lias slates, which owing to their variegated character have received from the Italian geologists the appellation of *schisti-varicolori*. Strata of cretaceous age overlie these schists. The total thickness of the mesozoic strata reposing on the metamorphic limerocks of Monte Rombolo is not great, but is succeeded by a long series of tertiary beds, which cover a considerable area of the neighbouring country. The accompanying transverse section will serve to illustrate the relative situation of the formations, though it should be observed that at this place the sedimentary rocks have been denuded from the western slopes, and thus the underlying trachytic rocks have been exposed. Length of section is about 2½ miles.

SECTION THROUGH MONTE ROMBOLO.

- Campo Alto Bucho.
- Marble Quarries.
- Monte Embolo.
- Roca di Silvestro.
- Rogers' Lead Mine.
- P Lany Lead Mine.
- Temperino Valley.

A simple line drawing of a wave crest. The letter 'W' is positioned at the lowest point of the trough on the left, and the letter 'E' is positioned at the highest point of the crest on the right.

The geological cross-section illustrates the subsurface geological structure. It shows several distinct geological units, including the Quaternary (Q), Tertiary (T), and Cretaceous (C). The units are separated by different patterns and colors, indicating their relative ages and lithological characteristics. The section also shows the presence of faults and other geological features that influence the distribution of these units.

Eocene (Nummulites)—Horizontal Lines.
Cretaceous—Vertical Lines.

Upper Lias—Dotted.
Lower Lias (Ammonites)—White.

IMPORTANT ADDITION TO THE PROPERTY.

The directors of this company have issued a circular to the shareholders, dated 23rd inst., announcing the purchase of the Hidden Treasure Mine and Mill, at a cost of 22,000£., which has been effected without any increase of the share capital. It is stated that the shareholders are greatly indebted to the persevering energy of Mr. Francis A. Sands, managing director of the company, for the successful completion of this important purchase. Ever since the formation of the company, it is understood, that it has been the desire of Mr. Sands to effect the consolidation of these two properties, as they are immediately adjoining, and there is no physical boundary whatever between them. The circular referred to informs us that the new plant of hoisting machinery erected by the company at the California Mine is the most powerful and efficient that has ever been set in the State of Colorado, and that it can work these two mines to a very great depth. After some further additional development of the Hidden Treasure Mine, the directors look for a large addition to the daily output of their property, and a greatly increased rate of profit from the more economical working of the mines, which is now rendered possible by working the two properties together.

After the company acquired possession of the California Mine, and previously to the construction of the new machinery, milling operations were carried on for a period of nine weeks (with the exception of a few days intermission), which resulted in a net profit to the company of over 4000%. It is announced in the circular that the company resumed milling operations on Sept. 1 last, since which time 3140 tons of milling ore have been crushed, which has realised 6160%, and smelting ore to the value of 2325%, has also been produced and sold. This, as the result of 11 weeks' working, cannot but be regarded as exceedingly satisfactory, particularly when it is borne in mind that after starting the new machinery the mine had to be unwatered, and the levels put in order. It is, moreover, stated that this rate of production is now being regularly maintained, and that the California Mine appears to improve in yield and quality as depth is attained, and that the same result is remarked in the Hidden Treasure Mine. The shares of this company are in active demand, and it is not doubted that at an early day they will command the premium which they evidently deserve.

The mill which the company have purchased with the Hidden Treasure mine has been constructed on improved principles, and is stated to be one of the best stamp mills in the State of Colorado. The company will have the advantage of crushing their ore at this mill by water power at a greatly reduced cost, and in this direction will be able to earn larger profits. The mill has a capacity for treating about 70 tons of ore per diem. The company also own another stamp mill, which was purchased with the California Mine, which is worked by steam power, and which has a capacity for treating 50 tons per day. Thus the crushing facilities afforded by the two mills appear to be equal to what will be required for the output of the two mines.

Special attention is drawn to the districts in which these mines are situated, which is known as Quartz Hill, in Gilpin County, State of Colorado. A quotation is made in the circular from Mr. Frank Fossett's standard work on "Colorado, its Gold and Silver Mines," the last edition of which was published in 1890. The extract is as follows:—

Quartz Hill is one of the greatest depositories of wealth that the world possesses. Here is a network of mineral veins, spurs, and feeders, and a number of great lodes, such as are rarely seen in any country. Millions in gold have been taken from this hill, and there are millions in it yet. The two longest and most important veins are the California-Gardner and the Hidden Treasure. The latter is known under the names of Indiana, Hidden Treasure, California, Gardner, &c. The California-Gardner-Indiana vein is one of the most productive in the United States. The Hidden Treasure Mine is made up of claims on the California and Indiana. The Hidden Treasure Mine is remarkable for its large yield and profit, and the size and value of its ore body.

On the same head, Mr. Thomas Rickard in his exhaustive report on the mine, makes the following interesting comments :—

Colorado, the Centennial State, has of late years attained the first rank among the bullion-producing states of the Union. Compared with the other great mining districts of the West this State enjoys the advantages of being the most accessible, and of having the cheapest rates of labour. Denver, the chief city, is three and one-half days' railway journey from New York, and therefore about as fortnight from London. Central City, the capital of Gilpin County, is 40 miles by rail from Denver.

I have spoken of Gilpin County as foremost in bullion production in Colorado

But little has yet been accomplished to prove the depth and value of the deposited ores, but some estimate of their extent may be

made by an examination of the vast caverns which have been emptied of their contents by the ancient miners. These caverns, which often possess a profundity of 250 ft., can be penetrated without any great difficulty, and a study of them viewed by the light of the geological features epitomised in the foregoing sketch leads to the inference that the district is only superficially rich in minerals, and that the plutonic disturbances have not been of so pronounced a character as to justify any expectation that the opening up of the large deposits seen at surface would lead to the discovery of extensive and lasting mines in depth. The principal accumulations of mineralised matter are found closely connected with the two elvans previously mentioned, sometimes on one side and sometimes on the other, and occasionally a deposit is observed occupying both sides. Amongst the large and confused outcrops of gangue, consisting chiefly of fibrous and radiated amphibole, are found irregular and often large masses of blende, galena, limonite, and cupreous pyrites. Amphibole prevails in lesser or greater quantity through all the ores, and is frequently seen in small patches in the fractured marble unaccompanied by metallic substances.

SOUTH STAFFORDSHIRE AND EAST WORCESTERSHIRE INSTITUTE OF MINING ENGINEERS.

[Continuation of Report in the Journal of November 11.]

"The Wilson Gas Producer," with a few remarks on motive power, being a communication from Mr. A. Wilson, and read by Mr. C. H. TREGLOWN, of Messrs. Tangey and Co.

Mr. President and Gentlemen:—The manufacture of gas for heating and illuminating is a subject of much interest, and of daily growing importance. William Murdoch was the first to make illuminating gas about the year 1792, and generator gas of the cheaper description appears to have been made, in rare cases, for heating furnaces, at any rate as early as 1840. As you are aware there are now thousands of furnaces worked entirely by gaseous fuel, and the development of the system has undoubtedly effected a revolution in the method of conducting many manufactures, and been productive of a large saving in the fuel consumption of the country. The utilisation of the waste gases from blast furnaces for iron smelting, while effecting much economy in the cost of the operation, has familiarised engineers with the use of gaseous fuel for heating purposes on a large scale. The advantages of this system in connection with blast furnaces have been so great and apparent that it has no doubt strongly influenced the spread of gas furnaces served with gas produced in special generators, a system in the organisation of which the name of Siemens will be remembered with distinction in the history of the scientific progress of the nineteenth century. There is, considering its enormous consumption of fuel, clearly no apparatus which can approach to an iron smelting furnace for speed as a gas generator. A large blast furnace, such as used in the North of England, generates about 18 tons of gas per hour. This gas is of a character which can be burned with facility for heating boilers and other purposes, yet its only combustible constituent is carbonic oxide, of which it contains only 26 to 28 per cent. The same gas contains only about 14 per cent. by weight of carbonic acid. The blast furnace which thus turns out such an amount of gaseous fuel, consisting of carbon in an only half oxidised state, might be justly condemned as a most wasteful appliance, but in reality it is more perfect than almost any other metallurgical operation, in approximating its working condition close to theoretical perfection. It is necessary to remember that the blast furnace is essentially a reducer of oxide as well as a smelter, and oxide of iron ceases to become reduced if the carbonic acid in the gaseous atmosphere surrounding it exceeds from 40 to 50 per cent. by volume of the carbonic oxide it is associated with. These conditions entail the expulsion of about two-thirds of the fuel put in, in the form of carbonic oxide; and thus the blast furnace becomes a gas producer of no mean power. This gas requires about three quarters of its own weight of air for perfect combustion, or rather more, and it leaves a whitish deposit consisting of particles of alkaline matter in the flues and chimneys.

Combustion may be the chemical union either of a solid and a fluid, as the oxidation of carbon to carbon acid by air, which may be effected without flame, or the union of two or more solids or fluids. In the interior of a close topped blast furnace there is no flame; the coke in the neighbourhood of the tuyeres is oxidised to carbonic acid by the blast, and the carbonic acid ascending unites with more carbon and forms carbonic oxide. Both of these operations illustrate the combination of a solid by a fluid—firstly, carbon by oxygen; secondly, carbon by carbonic acid. The decomposition of carbon by carbonic acid gas can only take place at a high temperature. The union of these two is productive of a reduction in temperature, not an increase, as is invariably the case in any reaction when the product is carbonic acid. Carbonic acid gas is produced from carbon by direct action, but carbon can only be converted into carbonic oxide by a double re-action, which involves the solution of carbon by carbonic acid. With these facts in view the conditions necessary in a generator of carbonic oxide may be readily perceived. There must be solid carbon, say, coke with a current of air passing amongst it, and a further supply of red-hot coke adjacent to be subsequently acted upon by the carbonic acid first produced, and so produce carbonic oxide. Carbonic acid is carbon fully oxidised; the complete oxidation in combustion of 1 lb. of carbon requires 2.66 lbs. of oxygen, or about 11½ lbs. of air. Carbonic oxide is a gaseous carbon compound; partly oxidised it is capable of further oxidation, and thus forms a combustible gas. It is the most valuable heating gas we have, inasmuch as it is the cheapest. In a pure state it consists of 4285 parts of carbon to 5715 parts of oxygen by weight. It requires slightly more than half its weight of oxygen, or about two and a-half times its weight of air for perfect combustion, and the combustion of 1 lb. yields heat theoretically capable of raising 2403 lbs. of work 1° centigrade, or in other words, it yields 2403 centigrade units of heat per 1 lb. Its volume is 13.56 cubic feet per 1 lb. at 16° centigrade. It is a colourless tasteless gas, poisonous if inhaled.

Good coke and anthracite coal consist of about 90 per cent. pure carbon; wood charcoal about 85 per cent. carbon; and bituminous coal from 70 to 80 per cent. pure carbon. As these fuels contain, in addition to fixed carbon, more or less combustible gas, which also requires air for combustion, it follows that in making calculations on questions relating to combustion as ordinarily practised in furnaces, it is a sufficiently near approximation to the truth for most purposes to consider the fuel as if it were all pure carbon. Now, in a blast furnace from 50 to 100 ft. high it would clearly be a paradox if air injected at the bottom penetrated a column containing oxidisable matter of such dimensions in a heated state without becoming decomposed; therefore, although, as just mentioned, perfect combustion is not attained in blast furnaces, yet there is, on the other hand, practically no free oxygen found in the resulting gases. In the majority of ordinary furnaces however, the object is simply to produce heat, a reducing atmosphere which may be explained simply as an atmosphere of gas not fully oxidised itself, and is, therefore, capable of oxidising other material, not being required. The production of heat is the main object in most furnaces, and with that end the fuel must be burnt at once to carbonic acid. This involves the combustion of a solid by a fluid as before mentioned, and the condition of ordinary fires, do not admit of solids and fluids being sufficiently intimately mixed to obtain anything but a very imperfect result, theoretically considered. The gases produced by the combustion of coal with the theoretical quantity of air would contain about 25 per cent. of carbonic acid; but, as against this, 10 per cent. of carbonic acid is above the average in the waste gases from boilers and furnaces. The great disparity between these figures is occasioned by a prevailing excess of air. To counteract this damaging effect of this excess of air the mill furnaceman or puddler struggles to maintain the heat in a reducing atmosphere, and passes his waste gases off in solid rolling clouds of soot. But flame is essentially a union of fluids, and fluids can be properly mixed with facility if the pores of the coal could be impregnated with air, and saturated to the required extent each atom of carbon, contiguous to the necessary air before the fuel was thrown upon the grate, the result would be different; too strikingly different, no doubt, since it would ap-

proach to the composition of gunpowder, a substance containing the necessary oxygen for perfect combustion without air.

So violent a combination would not, however, be in harmony with our requirements in the arts of peace; the solution of the matter is to be found in the system of the union of fluids. First gasify the fuel, then burn it. The reason that gas firing has not been adopted more rapidly, arises partly from the cost of plant, partly from the large space necessary for the gas producing plant of the type mostly used in past years, coupled with the fact that non-regenerative gas furnaces have been seldom designed, which up to recently has almost precluded the adoption of gas firing as a general system applicable with great economy, and advantage to manufactures of every kind. The speciality of the Wilson gas producer (a model of which was shown) is to reduce—first, cost and space for a given amount of work done in a given time, and to utilise the cheapest fuel for firing both regenerative and non-regenerative furnaces and boilers. The old form of gas producer gasifies coal at the rate of about 13 lbs. per square foot of grate area per hour, whilst the Wilson gas producer gasifies fine slack at the rate of from 26 lbs. to 30 lbs. per square foot of hearth used per hour. The producer may be described as follows:—It is about 8 ft. external diameter and 10 ft. high, consisting of an iron casing lined with brickwork without any grate bars. A box runs across the centre of the hearth, having tuyers in its sides, and two doors are provided—one at each side, the central tuyere for removing ashes and clinkers. The air is forced in by two small steam jets, each blowing down a taper pipe outside. The upper portion of the producer forms a kind of retort, with an annular flue communicating with a branch pipe, which conducts the gas to the gas main or culvert. At the top there is a bell and hopper for charging the fuel. The action of the producer may be briefly described as follows:—The interior is more than half full of fuel, which rests on the solid hearth. Into the centre of this mass near the hearth, and as far as possible from the side walls air and steam are injected from each side of the central tuyere, which communicate with the steam jet blowers outside. A rapid combustion takes place in the vicinity of the tuyere, where the carbon is decomposed into carbonic oxide at a bright red heat, and with the hydrogen also decomposed from the steam, passes upwards and escapes by the outlet ports into the annular flue surrounding the top portion of the chamber. The coal is charged from time to time—say every 20 minutes, through the bell and hopper at the top. When the top of the coal is kept above the level of the outlet ports, as is proper, the hydrocarbons are for the most part distilled in the retort portion, and have to pass downwards to escape along with the carbonic oxide and hydrogen from the bottom. The tubes and downcomers are lined with bricks, and underground brick flues are recommended for conveying the gas to the furnaces. Under such conditions there is no tar produced. This troublesome substance is all gasified and utilised in combustion. There is a slight deposit of sooty matter in the flues, which may be easily burnt out from time to time, and in this respect no trouble whatever is experienced in the practical conduct of the apparatus, being in striking contrast to the labour and time expended in dealing with the tar and pitch deposited in the tubes of Siemens's gas producers.

To obviate confusion between similar designs, that the special arrangement of the "Wilson" producer was patented in 1876, since which time one or two designs have appeared, having a strong resemblance to imitation, but lacking the salient features, which constitute success in the important matter of getting the most out of the least in all respects. The producers are made in sizes to gasify 4 cwt., or 8 cwt., of slack per hour as a maximum, but they may be worked at any speed lower than this by simply regulating the steam-jets. For large consumptions of coals, say hundreds of tons per week, large producers are advisable, but two small sized producers are always recommended in preference to one larger one; this conduces to regularity in the supply of gas, and does not cause the stoppage for a short time of one producer for clearing out ashes to interfere with regular working. Such a number of producers for single works are now demanded that the author will proceed to construct them of a size capable of gasifying 1 ton each per hour. A recently introduced improvement is to make the steam-jet of an annular form—that is, a ring of steam instead of a solid jet, whereby the proper proportions of steam and air are maintained by one jet instead of two, also to provide a dip-pipe, with a water seal at the exterior end of the tuyere box, which acts as an automatic regulator to control the pressure of gas. When working on a coal containing 86 per cent. of fixed carbon, 5 per cent. of hydrogen, and 4½ per cent. of oxygen, with 2 per cent. of water, the gas from these producers was found by analysis to have the following composition by volume:—Nitrogen, 56.11 per cent.; carbonic oxide, 26.89 per cent.; hydrogen, 11.55 per cent.; carbonic acid, 4 per cent.; carbonated hydrogen, 1.45 per cent.; total, 100 per cent. The total percentage of combustible thus reaching about 40. An examination by calculation based on the analysis of the coal used and gas produced shows that the material used in producing 100 parts by weight of gas is approximately as under:—Coal, 18; air, 79; steam, 4; and from this it is evident that to gasify 100 per cent. of coal there is required—steam, 22; and air, 433 parts. As might be expected, various analysis of the gas prove that the steam is all decomposed in passing through the mass of red-hot fuel. The steam serves three useful purposes—it reduces the percentage of nitrogen in the resulting gas, and consequently increases the percentage of combustible; it serves as a simple form of motive-power to force air in, and by cooling the lowest part of the combustion chamber enables the ashes and clinkers to be easily withdrawn. From the above data the quantity of steam used in driving a gas producer gasifying 450 lbs. of coal per hour may be readily calculated in a form for practical guidance. Each 1 lb. of coal takes 4½ of air, or 1935 lbs. per hour, or for 150 hours per week (say) 130 tons of air. As the air is mixed with 5 per cent. of its weight of steam the weight of the latter will equal 6½ tons. Now, as 1 ton of coal evaporates at a very moderate estimate 6½ tons of water in boilers of ordinary type it follows that the amount of coal to be consumed under the boiler for each gas producer of this size working night and day is 1 ton per week, a quantity quite insignificant compared to the advantage gained.

A gas producer of ordinary dimensions can work efficiently on slack coal with an air supply from the sides. In such a case it creeps up the walls and gets through without acting upon the fuel. In the "Wilson" producer the air and steam is introduced centrally to begin with, and cannot reach the sides before it is decomposed. A ton of ordinary slack coal, gasified in this way, yields about 146,000 cubic feet of gas, measured at a temperature of 60° Fahr., or 71 cubic feet from each pound of coal. The gas yields on combustion 144° Fahr. units per cubic foot: 18 cubic feet could thus generate one indicated horse-power in a theoretically perfect gas motor, if such could be found. The great loss in gas-engines occurs in the sensible heat lost in the waste gases, owing to the exhaust leaving the cylinder at upwards of 1,200° centigrade. The prime mover of the future for large powers will doubtless be a regenerative gas-engine. You need not be reminded that the most economical engines existing are steam-engines which work with about (say) 1½ lbs. of good coal per hour per indicated horse-power. No such economical result as this can be obtained by any gas-engine yet constructed working with illuminating or town gas; but a good gas-engine, even of a small size as at present in the market, rivals a high class steam-engine as to economy, if supplied with producer gas of the nature under consideration; and it must not be forgotten that this is so, in spite of the fact that the waste gases pass away at a very high temperature. In a gas-engine expansion is completed nearly to atmospheric pressure, and useful effect ended before the gases have lost one-third of their sensible heat; whereas in the steam-engine 70 per cent. of the sensible heat may be converted into work before expansion ceases; but the steam-engine involves the loss of the latent heat of steam, and this may unquestionably be regarded as beyond our powers of recovery. Not so, however, with the sensible heat in the waste gases from a gas-engine. It has been proposed to transfer this heat to the gas and air before explosion. Such an arrangement would, however, present the difficulty of an increased temperature in the cylinder, and, practically, this would become an insuperable difficulty.

The gas generator itself appears to be the factor to which this heat must be transferred, there it can be dealt with and utilised.

The theoretical number of Fahr. units of heat required to yield one indicated horse-power for one hour are 2564. The number of units actually absorbed by the most economical steam-engines 24,900. The number of units actually absorbed by existing gas-engines 15,000. As before remarked, however, the units cost more for the gas-engine than for the steam-engine, so that in point of economy they are about on a par. The figures in any case serve to show how very far from theoretical perfection are even the best appliances as yet available for transferring heat into power. If, as would appear from the foregoing considerations, the gas-engine and the gas producer are as much spokes in a new wheel, and the engine and boilers are spokes in an old one, perhaps this may not be regarded as too wide a digression from the subject more immediately before us. As town gas with which gas-engines are at present supplied costs from 2s. to 3s. per thousand, it may be here worth while just to refer to the relative cost of producing gas. Taking slack coal at 5s. per ton, and the labour of attending to gas producer with wear and tear of same at an additional 2s. per ton, (say) 7s. per ton on coal gasified, we have as a product 140,000 cubic ft. of gas, costing 84-140ths of a penny, or (say) 3d. per thousand cubic feet. As regards the uses of the "Wilson" gas producer, a description of the many interesting applications it has been successfully put to would occupy too much time on the present occasion; suffice it to say, although of recent introduction, it has been profitably adopted in every important manufacturing industry in the kingdom in which heat is a continual necessity.

PRACTICAL MINING—PERPENDICULAR SHAFTS.

In the discussion which followed the reading of Capt. WHITE's paper at the Mining Institute of Cornwall, on the Advantages of Perpendicular Shafts (an abstract of which was published in the *Mining Journal* of Nov. 4) much valuable practical information was elicited. In reply to the President (Mr. W. HUSBAND, C.E.) as to what he would do below the 100 fm. level Capt. WHITE said that he certainly should not change the direction of the shaft, but continue it at the perpendicular, not requiring more cross-cuts below the 100 than above, for 200 fms. deep. Referring to the computation of 700l. as the cost of the cross-cuts Capt. RICH said that as Cornishmen they all liked vertical shafts, but the point was whether those shafts were practicable. Upon this question Mr. HENDERSON said that having had experience in dialling shafts, he knew pretty well their operation in the county. He must say that where it was practicable to put down perpendicular shafts, such a shaft would be far better for the mine. He remembered an instance where a shaft had been so badly sunk that two kibble chains used to cross one another, and frequently the full kibble used to bring the empty one up with it. He did not know how a mine could pay at all with a shaft in that condition. Mr. Henderson went on to say that he knew one or two instances where shafts had been sunk behind the lode and never could regain it. That was an instance of a shaft sunk to meet the lode at a certain depth, but they sunk it outside from not ascertaining at the surface exactly where the lode was. He should think it would be necessary to have a mine pretty well opened before they could sink a perpendicular shaft to hope to cut the lode at any particular level. The point which struck Capt. BISHOP was that there was a possibility of putting down perpendicular shafts between the different lodes in the mine. He thought, however, that no one who understood perpendicular shafts could believe otherwise than that those shafts were a decided advantage, though, as Capt. White remarked, it might not be advisable at all times to use those shafts, and might be sometimes desirable to put in a well-sunk diagonal shaft. He did not think the difference in the cost of fixing pitwork in underlie compared with vertical shafts would be so great as the reader of the paper had stated. He (Capt. Bishop) did not question but that many of the mines, if they had a good vertical shaft, would do a great deal better than they were doing now.

The importance of the subject brought forward in the paper was fully recognised by Capt. TEAGUE, sen., but the fact that there were cases in which the lodes changed their underlie would he thought to interfere considerably with the use of perpendicular shafts for cutting a lode at a certain level. He believed it had been the object for many years past, in starting a mine or resuscitating an old one, to sink on the course of the lode and prove that lode as they went. Adventurers generally liked to have a lode reported on as often as possible, and he could not help thinking that it was wisdom to see as much as possible on the course of the lode. He believed that in many cases shafts had been sunk perpendicular and off the lode, and the cross-cuts had been driven and had never reached the lode. Some of the mines that had been recently resuscitated, he thought, had been suspended on that very account. If you had a good mine you could do anything—sink on or off the lode; but when you had to touch the adventurers' pockets, in the majority of cases the adventurers would prefer sinking on the course of the lode and open up and see where they went as they went along. He did not know that the comparison which had been drawn between coal mines and Cornish mineral mines was a proper comparison to make. In coal mines they had their beds of coal and knew what they were going after and what they had to take away; but in regard to Cornish mineral mines, a good lode might be on a certain level and the very one under might prove not so well, and therefore, when all these expensive arrangements had been made, the lode might be discharged. Perpendicular shafts looked very nice theoretically, but there was a question whether they would turn out so well in practice, though, as he said, he thought they were indebted to Capt. White for bringing the matter forward; the discussion might possibly lead them to think what they could do in the future to improve their shafts. Being called upon for an expression of opinion Capt. HOSKING admitted that there were very long cross-cuts at Wheal Basset, but he understood that that might be the question was the sinking of vertical shafts, and the applicability of those shafts to the lodes to be intersected. He took it that Capt. White advocated the sinking, where practicable, of vertical shafts to meet lodes not underlying between two and a half feet in a fathom from the perpendicular, and preferred such shafts to sinking on the course of the lode. He (Mr. Hosking) agreed as to the propriety of ascertaining the value of the lode. It appeared to him that where it was practicable to sink such a shaft, the vertical shaft was the shaft that should be used.

That vertical shafts, where applicable, were a great benefit to any mine there could, Mr. TEAGUE, jun., thought, be no doubt, but at the same time the remarks of his father as to the driving of cross-cuts, should be borne in mind. There might be some improvement in the shafts they had now to deal with in the cutting of the plots. He thought it would be a very great advantage if the plots were cut in front of the shaft. The question of sampling the stuff which had been referred to, would not interfere with the shaft. If you got the stuff to the surface, it would be optional on the part of the executive whether they would sample it, or what mode they would adopt in doing so. He thought the arrangement of vertical shafts might be advantageously adopted in some places, and he also thought it would be a great advantage if it were seen that underlie shafts did not go east or west. Capt. WHITE quite agreed that if a mine in the flat lode district commenced their shaft at surface on the lode and sank a straight, diagonal shaft, it would be far better for the future working of the mine than what a perpendicular shaft would be striking the lode at 150 or 200 fms. deep, whatever the distance might be. Capt. C. THOMAS said the use of the different kinds of shafts depended on the district very much; as a rule he would keep to the lode as nearly as possible. The farmer generally tried to ascertain the nature of the soil before putting in the seed, and the miner might do something in a similar way. He thought the better way would be to keep to the lode. In replying upon the whole discussion Capt. WHITE said that those present believed, like himself, in vertical shafts to a certain extent, and as he said in his paper, he had drawn the limits from 1 in. to 2½ ft. in a fathom underlie. In conclusion the PRESIDENT remarked that he thought there could be no doubt that perpendicular shafts, where they could be employed, would save great expense in working a mine; under the conditions Capt. White had named, it was very likely that on the whole per-

pendicular shafts were used, but it had been pointed out it was known where the coal could be found. It was quite certain that the question of hauling the stuff was daily becoming more important, because the shafts which before the introduction of modern blasting operations, such as dynamite, were sufficient to meet the purposes required of them, were no longer capable of bringing to the surface the stuff taken. The plan referred to of separating the stuff appeared to be very important.

THE PROGRESS OF INVENTIONS—BALLOONS.

On Saturday, Nov. 18, an interesting event in the annals of science was celebrated at the Royal Aquarium by the Balloon Society, being the 100th anniversary of the ascent in 1782 of the first balloon by the brothers Montgolfier. Capt. Molesworth, R.N., presided, and telegrams of congratulations were exchanged with the French societies in Paris celebrating the same day. Mr. HYDE CLARK was called upon, as having proposed the commemoration, to give the toast of the evening. He referred to the extraordinary impression the discovery had made in the minds of those who first saw the balloon sailing in the air, and particularly in France, as he had learned from those of that generation. Indeed this and the snatching of lightning from Heaven by Franklin were portents which heralded the French Revolution. It was believed that a new era in science and in thought had been declared and that all was to be open and revealed to man. The use of the balloon in aiding the Republican victory at Fleurus had also made a great impression. How this century, now brought to its close, had been fruitful in scientific achievements, it was interesting to consider. While the Montgolfiers had made the balloon practicable in France, and Lunardi had introduced it into this country, Bishop Watson had really demonstrated the electric telegraph by laying a mile of wire across the neighbouring Thames and passing an electric spark through it. At the end of a hundred years, however, the electric telegraph had become an established institution of the world; but the balloon, with all its applause and all its prestige, had not achieved the original expectation. The history, however, was not without its value; we were not to be discouraged by disappointments and delays, but to persevere, particularly when so many men of science had contributed their exertions. If the balloon had not yet become a means of transport, it had proved a most valuable scientific instrument, and had greatly contributed to our knowledge of the constitution and phenomena of the air, for a true acquaintance with which the results of balloon voyages undertaken by Glaisher and his French colleagues had much aided us. Other speakers followed in reference to the value of photography in connection with aerostation, the employment of the latter for military purposes by Col. Walsh, and the experiments of the well-known inventor, Mr. Giffard.

GAS AND ELECTRICITY.

The lecture on "A Cheap Servant for the Working Man and his Wife," recently delivered at Warrington, by Mr. Thomas Fletcher, F.C.S., was so interesting and suggestive that some of the leading points in it cannot be too carefully read and remembered. Not one household in twenty has, he remarks, any conception of the use of gas for any other purpose than lighting—no doubt that in twenty years from now at least eleven out of twelve, perhaps the whole dozen, will use it to the practical exclusion of fires, except for warming rooms, for which purpose it is at present too expensive for those with small incomes. At the present price gas is cheap as compared with coal for cooking, water heating, and all irregular domestic and workshop purposes, and it has fewer faults and objections than any other known fuel. Gas can be made and supplied cheaply, and it may be cheap enough after a time to be used for fires, to the total exclusion of coal—in those houses where every penny is an object. Whatever electricity may do for us in the future it certainly will not do in the present what gas will; and if we got it here "free, gratis, all for nothing," it would be a very poor domestic servant, hardly worth house-room.

There are conditions under which the electric light is a distinct advantage; but, as he says, it must not be looked on as a competitor with gas. Up to the present its introduction has led to a greatly increased gas consumption, as people get accustomed to the glare, and require larger gas-burners. For the average householder the electric light at its best is not worth consideration; gas is a good general servant, well worth having if not used at all for light, and, as it will supply the light also, it has not a competitor in the electric light. The majority cannot afford both, and if one is to be selected to the exclusion of the other electricity has no chance whatever. The Electric Light Companies are exceedingly good customers for gas. He has supplied all, or nearly all, the Electric Light Companies, both in England and America, with gas apparatus, and some of them to a very large extent. Some of them would be considerably puzzled to carry on their business without gas, and many are very large users. Not only in making lamps and apparatus, but directly or indirectly, the use of coal gas comes in continually. For instance, one maker of cables for carrying the current ordered 30 large gas blowpipes, for brazing up lengths of wire; and the Apostle of the electric light—Edison himself—has sent to Warrington for gas furnaces. Places such as the Savoy Theatre, in London, lighted, according to public statements, exclusively by the electric light, have to use gas for ventilating the place, and he believes he is well within the mark in stating that the gas bill of the Savoy Theatre exceeded 700*l.* last winter, in addition to the cost of electric light.

But that there is a large field for the application of electricity is not doubted—all that is urged is that too much must not be expected of it. Let electricity, says Mr. Fletcher, settle down, and find its proper place for light and other purposes, and it will be found to go hand-in-hand with gas; there is any amount of scope and room for both without any question of opposition. So far as lighting goes, if any of the Electric Light Companies will light my works as well as they are lighted with gas, and at the same cost, they are quite welcome to set to work and do it. Before this event happens our gas consumption for other purposes will be so much greater that the loss of the very irregular demand for lighting will not be felt. We could manage very well now without gas for lighting purposes; but if we could not buy it for other domestic and workshop uses we should be compelled to make it, as we could get no substitute to do the same work at anything approaching the cost. There is no doubt whatever that gas is a very expensive fuel, and that it is very easily wasted. Its real value for the heat produced as compared with coal is not one-tenth of its actual cost, provided both can be used with equal economy, as they certainly can on a very large scale for steady work, but you cannot make a coal fire for ten minutes for breakfast and tea and an hour for dinner. Once a day is quite enough to prepare a fire, and it is kept on throughout the day. You burn as much coal to get an ordinary breakfast ready as would, if the same coal were converted into gas, prepare the same breakfast better and at least a hundred days in succession. Here is where the economy shows; in the same way a workman will buy an extravagantly expensive steel tool to do his work rather than buy a hundred cast-iron ones. He does better work at a less cost, and saves his time in the bargain.

TURNER'S LITERARY RECORD.—The interesting notice of Prof. E. H. Palmer, whose life, it is too much to be feared, has been sacrificed for his country in connection with the Egyptian campaign, gives even more than the usual value to the November number of *Turner's American, European, and Oriental Literary Record*, which has just been issued. It appears that the learned professor was left an orphan at an early age, and was much indebted for tuition to the late Rev. George Skinner, of Jesus College. When very young he showed a great aptitude for mastering languages, especially Oriental ones, and his acquaintance with Arabic was so perfect that it is probable that there is not a passage in the Koran which he could not recite when needed. The most unsatisfactory matter in the notice is the mention of the doubt whether his wife, whom he comparatively recently married, and four children, will be provided for by the Government, for it is beyond question that Prof. Palmer did not

volunteer his services, as pretended by certain officials, but was specially solicited to render them on a promise that they would be properly requited, and that his family would be provided for if any misfortune befell him on his mission. There are notices of Sara Hennell's Present Religion, of Bancroft's History of the Pacific States of North America, and a mass of literary intelligence. The obituary notices include those of the Rev. Henry Giles, Dr. Ernest Haas, Karl von Halm, Hamilton, and Bishop Steere. The usual lists of new American books and recent importations, of books printed or lithographed in India, books published in South America, and European Literature are given, and there are full details of forthcoming works.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,
MINEOWNERS STOCK AND SHARE DEALERS, &c
1, ST MICHAEL'S ALLEY CORNHILL, LONDON

It is said that one who signs himself "Pro Bono Publico" has written to a Cornish paper to ask why certain and particular mines are made "the leading features of the day, and belauded to the skies," while others are excluded from notice? The mines referred to are "West Caradon, New Caradon, New West Caradon, Wheal Crebhor, West Crebhor, Prince of Wales, East Caradon, and a few others." Now, we were not aware that these mines had been so much "belauded to the skies," but undoubtedly they have been the "leading features" in the London market, and frequently referred to as such, and the reason is not difficult to find. The Editor of the paper in which what we have quoted appears, has done good service for some years in exposing the practice of allowing debts to accrue in Cornish mines. And in another column of the same paper, in which "Pro Bono" holds forth, there is an article headed "Statistics of Cornish Mines," exposing and condemning the system, which we have also for years past striven to suppress, and this article will be found, we think, a satisfactory reply to the question asked, and will also be appreciated "Pro Bono Publico." The list referred to in the article consists of 16 mines managed in Cornwall, which had, as shown in their last statements of accounts, total adverse balances—that is to say, debts—amounting to 43,448*l.*, and calls of 12,051*l.*, only made against them. Some of these mines are allowed to go on heavily in debt without any calls being made at all, and as they are all supposed to be conducted on the Cost-book System this is not only against the spirit of it but dangerous for shareholders generally. And thus it is that we and others prefer and recommend such mines as have good prospects and clear books; that is to say, where calls are made sufficient to clear off liabilities, and those who go into them may speculate on the prospects of the mines without the fear of hidden debts.

Our meaning may be more clearly shown by one or two examples. At some mines managed in Cornwall heavy debts are allowed to accrue without any calls being made at all. At the last meeting of Carn Brea the adverse balance is given in the article we refer to as 5640*l.*, and no call made. Tincroft, 4336*l.*—no call. Where insufficient calls are made, Wheal Pevor may be taken as an example. At the meeting, debts were owing to merchants, 2647*l.* 8*s.* 10*d.*; dues, 330*l.* 17*s.* 2*d.*; bankers, 1539*l.* 9*s.* 1*d.*; adverse balance, 2390*l.*; but a call of 10*s.* per share, or 1500*l.* only was made. Now let us take a few of the "belauded mines" and see how their accounts stand. At West Caradon last meeting, the accounts, audited by a chartered accountant, showed liabilities over assets, 5*l.* 9*s.* 10*d.*. The meeting was held on Sept. 9, the costs were charged to July 22 (paid on Aug. 17), and no credit taken for 109 tons of ore sampled at the time, and which sold on Nov. 21 for 798*l.*. Yet a call of 6*d.* per share (300*l.*) was made to carry on the mine till the next meeting. Wheal Crebhor has a large credit balance after paying a handsome dividend, and not a debt on the mine. At West Crebhor meeting a debt was shown on five months' working of 290*l.* 8*s.* 5*d.*, and a call of 600*l.* was made. At Prince of Wales there was an adverse balance of 1538*l.* 14*s.* 7*d.*, and a call of 1500*l.* made, though 400*l.* of ores sampled and ready for sale were not credited in the accounts. These instances will suffice to show why certain Cost-book mines are neglected in London, and why others are preferred, if not "belauded to the skies."

At Great West Chiverton the engine-shaft is down 8 fms. 2 ft. below the adit, and when at the 10 fms., a level will be driven west to get under the winze sunk in the deep adit, and worth 1 ton of lead per fathom.

It is calculated by the agent of Kirkmichael that for 1000*l.* the two great and important points in the mine may be proved; but it was explained at the meeting the capital was exhausted, and the difficulty was in issuing the reserve shares at par. It is now under consideration of the directors, we believe, to issue 5600 shares at 5*s.* per share (1*l.* fully paid). And looking at the prospects of the mine, this would be about the cheapest issue of shares made.

Down to a shallow level (the 10) the mine sold lead ore for 2876*l.* 11*s.* 1*d.*, from a course of ore 50 fms. long. Then, in sinking deeper, 60 tons were sold for 561*l.*, and between the 20 and 30 fm. levels the agent estimated for the meeting that the reserves were 300 to 400 tons of ore that could be taken away at a good profit if lead should rise to 10*l.* per ton. There are also two very important points in the mine that we consider may result in good discoveries, so that any one getting shares at 5*s.* (1*l.* paid) may congratulate themselves.

We may shortly have something to say in regard to Gwydwr and Morfa Da.

At Wheal Crebhor the lode has been taken down in the back of 48 east; it is 2 ft. wide, worth 16*l.* per fathom.

At West Crebhor the lode has been taken down in the shaft, is worth 15*l.* per fathom, and looks very encouraging.

We see no good at present in raking up the old management of East Lovell, to which our correspondent refers. Since the Crebhor meeting we have received assurances of support to the present committee in their management of the mine and of the company's affairs; from parties holding in the aggregate a large majority of the shares, and nearly all express their regret at the change made in the mode of inspection.

THE WILD DUCK, OR SPORTSMAN'S ARMS.

"I suppose, Old Tom, that thee hast a good lot of news since our last mitten," says Jan Temby, "and that we shall all be a good deal wiser after we've heerd it, and had a good dinner!" "Well," says Old Tom, "less have the dinner first, and news afterwards—and here comes Old Beck with the beef and 'taties.'" Dinner being finished—"The next thing," says Uncle Henney, "is to say what we shall have to drink." "I propose," says Jemmy Dowa, "that we have a big jug of 'flip.'" "And I second the motion," says Jan Jewill, "for 'twill put us in mind of Xmas." "After a glass or two of flip I feel a good deal more comfortable in my mind," says Old Tom, "for there is nothing like good eating and drinking in moderation. Teetotalism is very well for drunksards, but reasonable men don't want it; but I would rather see a drunkard than a glut-ton any time, and the humbug about shutting up public-houses on Sundays is the right way to encourage private drinking, and there will be ten times more drunkenness than there is now." "I'm sure thee're right, Old Tom," says Uncle Henney, "for if a man is determined to have a thing a will he'll have it by hook or crook, and the more the thing is kept from un the more eager and determined he will be to get un; so that what is now done publicly will be done privately, and there will be ten times more drunkenness than ever." "Well, Old Tom," says Jan Jewill, "what dost a think about all the new plans of tin dressing?" "I think," says Old Tom, "that all of them put together are not a bit better than a parcel of 'flop-jacks.' I'm right, says one; my plan is best, says another; and with all the plans of all the great men, and wise men, the tin is still going down Red River." "That must be a wonderful river," says Jemmy Dowa, "for one of the learned men said a was separating the tin all the way from Tuckingmill to Gwithian Sands." "I wonder the don't try the same plan on the dressing-floors," says Jan Temby, "for then

Red River would be knocked idle." "I tell ee," says Old Tom, "so long as all the tinstuff is *munyed* up together in the stamps, the may buddle, or jig, or anything else, for so long will all the fine tin run down Red River; the rich tinny stone is much softer than the poor stone, stamp them together fine, or coarse; every poor gravel, if not half so big as the head of a pin, the moment a es fished out of the grate will drag away some rich grains of tin, and you will never catch them again, altho' you may do what you like with the drudge. The stuff must be saved clean, as it can be, underground, and more tin would be got out of a small bit of stuff than the mountains of stuff now sent to grass. Would any man in his senses throw a ton of prill tin into 10 tons of poor drudging stuff and stamp it up all together? That's something like what is doing now every day underground. People—I mean the learned great people—may say what they like about clean water or dirty water in washing tin, or other ore; but there is ten times too much water used, and, so long as it is continued, so long will tin, copper, and other ore run away in Red River and other rivers. The time will come, and must come, when all ore must be dressed 'dry,' and then there will be no loss; but even then all ore must be separated as clean as possible at the 'point of the pick underground,' and not mixed afterwards with 'mountains of poor stuff.' "I don't know," says Jan Temby, "what other people may think of thy plan, Old Tom, but to my mind there es a good deal of reason in un; but I suppose they learned men will say we're a pabble of fools." "They may say what the mind to," says Uncle Henney, "but here, Old Tom, is a good glass of hot flip for thee, old fellow, and when the 'big wigs' can stop the tin we will be the first to say they are clever fellows." "What's your opinion, Uncle Henney," says Jan Temby, "about downright shafts in all mines from the beginning?" "I think," says Uncle Henney, "that they would be best if we had all 'downright lodes;' but I can hardly suppose that any man in opening a 'new bal' would risk money in sinking a downright shaft till he had proved that the lode was of sufficient value to warrant the outlay." "But," says Jan, "they say they would prove the lode by sinking on it 30 fathoms first, and then begin the downright, and drive the cross-cut at the 50." "Well, now," says Uncle Henney, "if they have a good lode at the 30 it would be a hundred chances to one if the cross-cut at the 50 hit the best part of the lode, and the result would be that the 'bal' would be knocked." I have known many bals to be knocked by this plan of working, when if they had driven a few fathoms east or west of the cross-cut a valuable course of ore would be found. Adventurers may be in high spirits at having a good lode at the 30, but after waiting to sink 20 fathoms of a downright, and then driving the cross-cut—all 'dead work' and cutting the lode of no value—they cool down and 'knock the bal' and lose their money; but if they kept on in the course of the lode from the beginning they might have made a fortune. Other people may do what they've a mind to; but, in my opinion, he would be a silly man to begin a new bal by sinking a downright shaft. When a mine is worth it, and can afford the money, have a downright shaft if there could be any advantage in it; but, for my part, I would always stick to the lode, and by giving yourself plenty of room in your shafts on the lode you need not mind the underlay a pin; besides, all the time you are working on the lode you are sure of getting something as you go." "So I say," says Old Tom, "have big shafts, plenty of elbow room, and stick to the lode, and let the dead work for the 'that like it.'" "Come," says Jemmy Dowa, "here's your glasses all filled with hot flip, and stick to un like bricks, for tes prime stuff. Xmas will soon come again, and by all accounts we shall then have some grand 'Kerl' singing; the finest by the choir, I've heerd, are practising a lot of new Xmas pieces; and if we are all alive and well I'll agree we will have another 'good Xmas cup.'" "We are all agreed," says Uncle Henney, "and now we will go home all the better for a good dinner and good drink."—From Cousin Jack's unpublished MSS.

KIMBERLEY NORTH BLOCK DIAMOND MINING COMPANY.

The first annual general meeting of shareholders was held at the Cannon-street Hotel yesterday, Lieut.-Col. G. COXON in the chair.

Mr. THOS. J. SEEL (the secretary) read the notice convening the meeting, and the report of the directors and statement of accounts were submitted. The accounts extend from May 26, 1881, to June 30, 1882, and show estimated net outlay for mine cost 4039*l.* 9*s.* 9*d.*; London expenses, 1315*l.* 3*s.* 3*d.*; interest and exchange, 129*l.* 17*s.* 8*d.*; machinery maintenance, 485*l.* 15*s.* 7*d.*; ditto depreciation, 594*l.* 13*s.* 7*d.*; 5655*l.* 5*s.* 10*d.*. On the other side of the account there are—Diamonds found, 885 carats (612½ carats sold for 1013*l.* 16*s.* 3*d.*), 1607½*l.* 11*s.* 3*d.*; blue on floors at cost of hauling and depositing, 480*l.*; transfer fees, 17*l.* 12*s.* 6*d.*; leaving balance, 4460*l.* 2*s.* 1*d.*. The available cash balance at June 30 was 659*l.* 5*s.* 1*d.*.

The directors report in explanation of the expenditure account that work on the blue ground (or diamondiferous soil) was not commenced until June 17, the accounts being taken to June 30, and consequently the total revenue derived by the company up to that date was: Diamonds from 253 loads of blue ground which accidentally fell from this company's claims into those of the British Company, sold for 1013*l.* 16*s.* 3*d.*; diamonds on hand, June 30, 532*l.* 15*s.*; blue ground on floor, June 30, 1600 loads, at estimated cost of hauling and depositing at 6*s.* per load, 480*l.*; transfer fees, 17*l.* 12*s.* 6*d.*; equal to 2105*l.* 3*s.* 9*d.*. The directors therefore recommend that the balance at debit of the expenditure account, amounting to 4460*l.* 2*s.* 1*d.*, be carried forward to be dealt with hereafter. The amount of 7207*l.* 17*s.* 8*d.* charged for cost of removing reef on claims when purchased, consist of the estimated proportion of expenditure incurred in making preparations for hauling, and of the cost of hauling the large quantity of reef on the claims lost that time. The estimated proportion of expenses connected with subsequent falls of reef has been charged to expenditure account.

The company was incorporated on May 26, 1881, but in consequence of unforeseen difficulties—the principal being the existence of a large lump of main reef, estimated at 200,000 loads, which had to be cut down by the Mining Board before the hauling gear could be fixed—in the procuring of machinery—which, owing to the great demand and consequent scarcity, had to be shipped from England—the failure of transport and scarcity of native labour, the preparatory work of clearing the claims was not fairly commenced until about Sept. 16, and was again seriously interrupted on Oct. 13 by a great fall of reef, estimated at some thousands of loads, and involving a further delay of some months, so that the preliminary operation of hauling reef was not begun until Dec. 9; but even then continuous hauling was found impossible, owing to the constantly recurring falls, which, rendering the main reef dangerous, necessitated the stoppage of all work on the claims until such time as it could be made safe.

Notwithstanding constant and harassing interruptions, a large amount of work has been done. They have hauled reef 23,695 loads of 16 cubic feet, hauled main reef belonging to the British and Central Companies, which had been brought down with reef on this company's claims, including also that haulage for the Central Company, 6106 loads, and hauled blue 1500 loads, equal 31,401 loads, which give an average of about 155 loads per day since Dec. 9, when reef hauling commenced, including all stoppages.

The company purchased and obtained from the vendors 5½ land claims, as purchased by them from the Compagnie Française des Mines de Diamants du Cap, under a guarantee that the claims purchased represent a minimum of 5½ claims of diamondiferous soil, or of compensation at the rate of 16,000*l.* per claim. The measurement on June 13 showed that the actual number of diamondiferous claims was 4 867-951, so that about 5000*l.* will be handed over to this company. The necessity of waiting for this measurement points to, perhaps, the most serious of all the causes which have combined to delay the profitable working of the company's property. Since June 30 very satisfactory progress has been made. They hauled reef from July 1 to Sept. 30, 9497 loads (on this company will receive payment from the Mining Board at the rate of 3*s.* 9*d.* per load); hauled blue from July 1 to Oct. 31, as per advices by letter and telegram, 8512 loads = 18,109 loads. The diamonds received since June 30, after deducting value of those on hand on that day have been sold for 4900*l.*, and those now on hand are valued at 5830*l.* = 10,700*l.*. There are further advices by telegram as having been shipped, but not yet received, 3690*l.* = 14,300*l.*; and blue ground remaining on floor, estimated at 2500 loads of 16 cubic feet, worth gross, after deducting estimated cost of hauling and depositing 1600 loads to June 30, and excluding pickings (estimated at 10*s.* per load) which have been included in diamonds, about 3700*l.* = 18,000*l.*.

The company's claims are now clear from reef. The manager states, however, that a few hundred loads will in all probability fall occasionally, but the main reef adjacent to the company's claim is sound, and, so far as can be judged, is not likely to give much trouble. Since the measurement of the claims, some ground has been lost through encroachment of reef—which was expected—and also through encroachment of rock. The basaltic rock, which forms the wall of the mine, has been expected in the claims of this and also those of an adjoining company. It was thought that the rock would prove to be perpendicular, so far such has not been the case, but it has been found to cut into the mine at an angle of about 1 in 10. It does not follow, however, that this will continue, and it has been proved by the test shafts and tunnels of an adjoining company, that the encroachment ceases at about 20 feet from the top of the basaltic rock, which then becomes perpendicular. It is further possible it may be found to recede, and the lost ground be recovered.

A full report will appear in next week's *Mining Journal*.

GOODEVERE.—It is reported that stones of rich grey and yellow copper have been recently found in the tin lode in the shallow adit. Seeing that this young mine is only distant some three miles from the Phoenix Mines (formerly rich in copper) great hopes are entertained in the neighbourhood that good deposits may be found here.

The West Cumberland Iron and Steel Company announce a dividend at the rate of 10 per cent. per annum, making, with the interim distribution in May last, 6 per cent. for the year.

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A DELICIOUS BEVERAGE AND TONIC**

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Queen's Crescent, Haverstock Hill,

London, March 5th, 1881.

DEAR SIR,—Some time since, being greatly fatigued with overwork and long hours at business, my health (being naturally delicate) became very indifferent. I lost all energy, strength, and appetite, and was so weak as to be scarcely able to walk.

As you are aware, I sent for a dozen of your Extract of Meat and Malt Wine, which, in a few days, pulled me up marvellously. Three or four glasses of it daily have quite altered and restored me to better health than ever, "without the assistance of a doctor."

I am now giving it to my son, twelve years of age, whom we have always thought consumptive, and from a puny ailing boy he seems to be fast growing into a strong healthy lad.

Enclosed you have cheque. Please send me two dozen of the "Extract." With thanks for your prompt attention to my last.

I am Sir, yours truly,

GEORGE A. TYLER.

Pints, 30s.; Quarts, 50s. per dozen. Carriage Paid to any Railway Station. Sample Bottle sent for 3s stamps.

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Inspections undertaken, either personally or by our Agents, and Reports or Advice as to Working given.

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20 Arenal, 50 Glenroy, 100 South Frances.
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50 Devon Gt. United, 200 Myasore Reef, 35 West Devon.
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100 D'Eresby Mountain, 50 North Busy, 20 West Polbrean.
10 Dolcoath, 100 Norway Copper, 5 West Seton.
20 Drakewalls, 500 Old Owlcombe, 5 Wheel Agar.
55 East Blue Hills, 100 Parys Copper, 15 Wheel Basset.
30 East Buller, 100 Penhalls, 10 Wheel Grenville.
30 East Chiverton, 50 Phoenix United, 25 Wheel Jane.
10 East Pool, 4 South Canadon, 10 Wheel Kitty (St. Agnes).
50 Eberhardt, 20 South Condurow, 50 Wheel Uny.
20 Frongoch, 100 South Crebor, 25 Wheel Crebor.
50 Gawton, 10 South Crofty, 150 Wheel Sisters.
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Am Buyer of East Wheel Rose, Old Shepherds, Mounts Bay, and Treavean.
The present is a favourable opportunity to purchase low priced shares, and I strongly recommend their purchase.
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FOR ONE AND ALL.

THE INDUSTRIES OF CORNWALL: By JAMES QUICK,
Editor of a British Maritime Gazetteer, &c., &c.
At the suggestion of several friends in Cornwall, Mr. Quick is about to reprint in one volume, by subscription (provided a sufficient number of subscribers are forthcoming), several historical and descriptive essays by him on Cornish Mining, the Cornish Engine, the Cornish China-clay Trade, the Fishard Fisheries, &c., which have appeared in Fraser's Magazine, the Quarterly Journal of Science, the MINING JOURNAL, &c.
Price to subscribers 4s. 6d., which amount should be sent by P.O.O. to Mr. JAMES QUICK, 11, Agnes-street, Burdett-road, London, E.

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Or 3, Grand Hotel Buildings, Charing Cross, London.
WILLIAM J. VIAN, Secretary.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

**IN the MATTER of the COMPANIES ACT, 1862, and of the
TIN HILL (LIMITED).**—Notice is hereby given, that His Honor the Vice-
Warden has by an Order, dated the 18th day of October last, APPOINTED
EDWARD BROOKS, of 85, Gracechurch-street, in the City of London, Public
Accountant, to be OFFICIAL LIQUIDATOR of the ABOVE-NAMED COM-
PANY, he having given the security required by the Court for the due perform-
ance by him of the duties of such appointment.
FREDERICK MARSHALL, Registrar.
Dated this 18th day of November, 1882.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

**IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and
of the TIN HILL (LIMITED).**—Notice is hereby given, that ALL CRE-
DITORS of the ABOVE-NAMED COMPANY are required, on or before the 2nd
day of December next, to SEND IN their NAMES and ADDRESSES, and the
AMOUNTS and PARTICULARS of their SEVERAL CLAIMS on the said com-
pany, to EDWARD BROOKS, of 85, Gracechurch-street, in the City of London,
Public Accountant, the Official Liquidator of the said Company.
FREDERICK MARSHALL, Registrar.
Dated this 20th day of November, 1882.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

**IN the MATTER of the COMPANIES ACTS, 1862 to 1880, and
of the WEST WHEEL TOWAN TIN AND COPPER MINE COMPANY
(LIMITED).**—Notice is hereby given, that ALL CREDITORS of the ABOVE-
NAMED COMPANY are required, on or before the 2nd day of December next,
TO SEND IN their NAMES and ADDRESSES, and the AMOUNTS and
PARTICULARS of their SEVERAL CLAIMS, to FREDERICK MARSHALL, Esq.,
the Registrar of the said Court, at Truro, within the said Stannaries.
FREDERICK MARSHALL, Registrar.
Dated Registrar's Office, Truro, November 21, 1882.

In the High Court of Justice.—Chancery Division.

**IN THE MATTER OF THE COMPANIES ACTS, 1862 AND 1867; AND
IN THE MATTER OF THE WYNAAD DISTRICT GOLD MINING
COMPANY (LIMITED).**

**TO BE SOLD, BY TENDER, by the Liquidators of the above-
named Wynaad District Gold Mining Company (Limited), the ESTATE
of the above-named company, situate in VYTHERRI, in the Registration District
of Calicut, India, containing 272 acres, more or less, and formerly known as the
"Carawann Tode Coffee Estate," with all the BUILDINGS, MACHINERY,
TOOLS, PLANT, and LIVE and DEAD STOCK, now used in and upon the said
Estate.**
Particulars and conditions of sale to be obtained of the Liquidators, JAMES
WADDELL, Esq., No. 1, Queen Victoria-street, E.C.; and GEORGE TWYMAN, Esq.,
No. 35, Bucklersbury, E.C.; and of Messrs. LAWRENCE, FLEWIS, and BAKER,
No. 14, Old Jewry Chambers, E.C., Solicitors for the Liquidators.

GLENROY LEAD MINING COMPANY (LIMITED).

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**THE LIQUIDATORS are PREPARED to RECEIVE TENDERS,
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The Mine was formerly a portion of the celebrated Great Laxey Company's
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Further particulars can be obtained from, and Tenders addressed to, the
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three powerful water-wheels, 60 fms. of pitwork, different sizes, great length
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Particulars to follow in future advertisements and posters in the meantime.
Apply to Wm. BATTYE, Esq., 16, Great Winchester-street, London, E.C.

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(LIMITED).**

The directors have THIS DAY DECLARED a DIVIDEND OF
TWO PER CENT. on the capital of this company, PAYABLE
1st December.

By order of the Board,

CHAS. H. ROSE, Secretary.

21, Great Winchester-street, London, E.C., 17th November, 1882.

**MINE "EL CALA O."
GUAYANA, VENEZUELA.**

COUPONS OF SHARES 322
Gold in bars produced during the month of September, 1882, and
remitted to Messrs. Baring Brothers and Co., London, 9406 19-100
ounces.

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(Signed) A. LICIONI, President.

(Signed) VICTOR T. GRILLET, Treasurer.

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**THE RIO GRANDE DO SUL (BRAZIL) GOLD MINING
COMPANY (LIMITED).**

Notice is hereby given, that the SIXTH HALF-YEARLY ORDINARY
GENERAL MEETING of the above company will be HELD at 47, Finsbury
Circus, London, E.C., on WEDNESDAY, the 6th day of December, 1882, at Two
o'clock in the afternoon precisely, to receive reports from the directors and Mr.
Henry Eddy, and to transact the ordinary business of the company.
The Register of Transfers will be closed from the 29th day of November to the
6th day of December, 1882, both inclusive.

By order of the Board,

J. A. MORGAN, Secretary and Solicitor.

47, Finsbury Circus, London, E.C., November 17th, 1882.

DEVON GREAT CONSOLS COMPANY.

TO THE SHAREHOLDERS.
Those shareholders who are dissatisfied with the past and present manage-
ment and non-payment of dividends in this company are requested to commu-
nicate with me, as it is my intention to get a Committee of Shareholders ap-
pointed to investigate the management and affairs; and, if possible, to convert
this property into a dividend-paying concern as soon as a sufficient number of
shareholders have replied to this address.
I shall call a meeting of shareholders in London to discuss what is best to be
done in the interests of the shareholders generally.

I am, your obedient Servant,

GEORGE PAWSEY WITT.

(A Dissatisfied Shareholder.)

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Pa.; Hon. JOHN HANDLEY, President Judge 45th Judicial District, Scranton,
Pa.; N. H. SHAFER, Esq., Cashier Third National Bank, Scranton, Pa.; E. B.
STRUBBS, Esq., Attorney-at-Law, Scranton, Pa.; E. W. WESTON, Esq., General
Agent Delaware and Hudson Canal Company, Providence, Pa.; Hon. Sir JOHN
F. CLARKE, Baronet, Thilippenie, Aberdeenshire, Scotland; R. L. CHANCE, Esq.,
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Information of any nature concerning Mining Interests furnished promptly.
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of Lime, Tin, Lead, Iron, Manganese, and Manganiferous
Iron Ores.

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Also, GENERAL MINING MAP OF UTAH, showing twenty-eight of the
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prominent mines. Price, pocket form, 6s.
Also, NEW MAP OF LITTLE and BIG COTTONWOOD MINING DISTRICTS
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NOBEL'S EXPLOSIVES COMPANY, LIMITED
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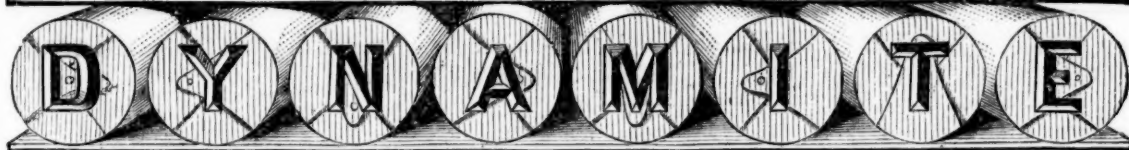
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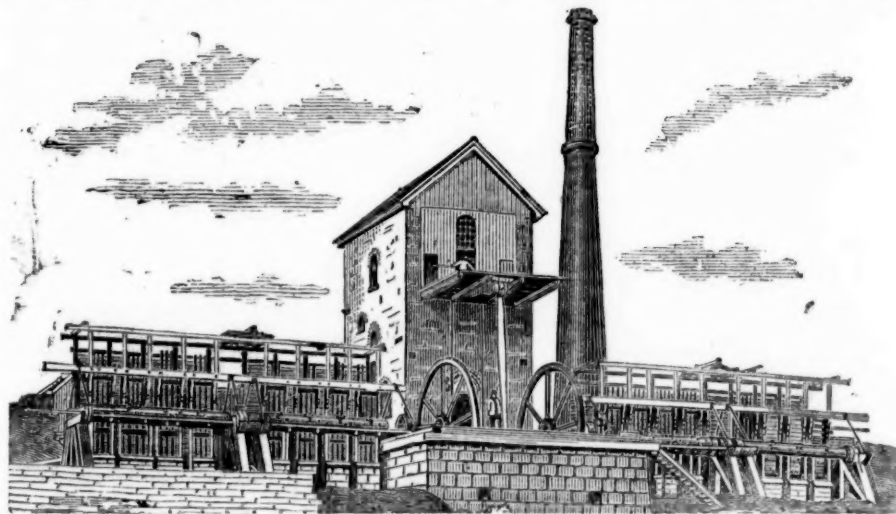
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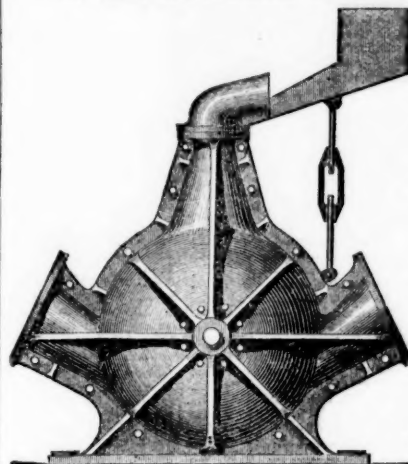
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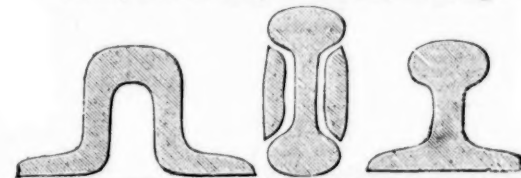
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THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.				
Shares.	Price.	Last	Div.	Last
3200 Blue Hills, t, c, St. Agnes	1 1/2	1 1/2	1 1/2	1 1/2
6000 Carr, t, c, St. Agnes	1 1/2	1 1/2	1 1/2	1 1/2
4000 Croft, t, c, St. Agnes	1 1/2	1 1/2	1 1/2	1 1/2
10240 Devon Grt. Consols., c, s, Tavistock	1 1/2	1 1/2	1 1/2	1 1/2
4200 Dolcoath, t, c, Camborne	1 1/2	1 1/2	1 1/2	1 1/2
4000 East Pool, t, c, Illogan	1 1/2	1 1/2	1 1/2	1 1/2
12500 Frozesho, t, c, Cardigan (10000 sh. iss.)	1 1/2	1 1/2	1 1/2	1 1/2
12000 Great Holway, t, c, Flintshire	1 1/2	1 1/2	1 1/2	1 1/2
15000 Great Lacey, t, c, Flintshire	1 1/2	1 1/2	1 1/2	1 1/2
6000 Green Hurth, t, c, Durham	1 1/2	1 1/2	1 1/2	1 1/2
20000 Grosvenor, t, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
10240 Gunislake (Olliters), t, c	1 1/2	1 1/2	1 1/2	1 1/2
2800 Isle of Man, t, c, Man	1 1/2	1 1/2	1 1/2	1 1/2
6000 Killbreth, t, c, Lancashire	1 1/2	1 1/2	1 1/2	1 1/2
20000 Leadhills, t, c, Lancashire	1 1/2	1 1/2	1 1/2	1 1/2
4000 Liberton, t, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
10000 Mellanor, t, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
9000 Miners Mining Co., t, c, Wrexham	1 1/2	1 1/2	1 1/2	1 1/2
20000 Mining Co. of Ireland, c, s, F	1 1/2	1 1/2	1 1/2	1 1/2
8000 Mona, t, c, Anglesea	1 1/2	1 1/2	1 1/2	1 1/2
11200 North Hendre, t, c, Wales	1 1/2	1 1/2	1 1/2	1 1/2
8140 Ditto	1 1/2	1 1/2	1 1/2	1 1/2
2000 North Levant, t, c, St. Just	1 1/2	1 1/2	1 1/2	1 1/2
4700 Penhall, t, c, St. Agnes	1 1/2	1 1/2	1 1/2	1 1/2
6000 Pennant, t, c, North	1 1/2	1 1/2	1 1/2	1 1/2
12000 Phoenix United, t, c, Llanidloes	1 1/2	1 1/2	1 1/2	1 1/2
18000 Pt. Patrick, t, c, (12000 p. 10 p. c.)	1 1/2	1 1/2	1 1/2	1 1/2
10000 Red Rock, t, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
12000 Roman Gravel, t, c, Salop	1 1/2	1 1/2	1 1/2	1 1/2
4000 Rhyl, t, c, Wales	1 1/2	1 1/2	1 1/2	1 1/2
512 South Cardigan, t, c, St. Cleer	1 1/2	1 1/2	1 1/2	1 1/2
6123 South Condurrow, t, c, Camborne	1 1/2	1 1/2	1 1/2	1 1/2
12000 South Daren, t, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
6000 South Welsh Franch, t, c, Illogan	1 1/2	1 1/2	1 1/2	1 1/2
10240 South Welsh Franch, t, c, Illogan	1 1/2	1 1/2	1 1/2	1 1/2
6000 Tincroft, t, c, Pool, Illogan	1 1/2	1 1/2	1 1/2	1 1/2
15000 Van, t, c, Llanidloes	1 1/2	1 1/2	1 1/2	1 1/2
12000 West Holway, t, c, Flintshire	1 1/2	1 1/2	1 1/2	1 1/2
512 West Tolgus, c, Redruth	1 1/2	1 1/2	1 1/2	1 1/2
2400 West Wheel Seton, c, Camborne	1 1/2	1 1/2	1 1/2	1 1/2
6000 West Basset, c, Illogan	1 1/2	1 1/2	1 1/2	1 1/2
12000 West Daren, t, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
10240 Wheel Eliza Consols., t, c, St. Austell	1 1/2	1 1/2	1 1/2	1 1/2
15000 Wheel George, t, c, Camborne	1 1/2	1 1/2	1 1/2	1 1/2
6000 Wheel Grenville, t, c, Camborne	1 1/2	1 1/2	1 1/2	1 1/2
4200 Wheel Killy, t, c, St. Agnes	1 1/2	1 1/2	1 1/2	1 1/2
3000 Wheel Pevor, t, c, Redruth	1 1/2	1 1/2	1 1/2	1 1/2

FOREIGN DIVIDEND MINES.

Shares.	Price.	Last	Div.	Last
35500 Alamos, t, Spain	1 1/2	1 1/2	1 1/2	1 1/2
130000 Almaden and Tinto Consols., t, Spain	1 1/2	1 1/2	1 1/2	1 1/2
20000 Australian, c, South Australia	1 1/2	1 1/2	1 1/2	1 1/2
15000 Bideford Creek, c, California	1 1/2	1 1/2	1 1/2	1 1/2
20000 Cape Copper Mining, t, South Africa	1 1/2	1 1/2	1 1/2	1 1/2
60000 Copiapo, c, Chile (24 shares)	1 1/2	1 1/2	1 1/2	1 1/2
70000 English and Australian, t, c, St. Austell	1 1/2	1 1/2	1 1/2	1 1/2
20000 Fortuna, t, Spain	1 1/2	1 1/2	1 1/2	1 1/2
60000 Frontino, t, c, Bolivia	1 1/2	1 1/2	1 1/2	1 1/2
20000 La Plata, t, c, Leadville	1 1/2	1 1/2	1 1/2	1 1/2
15000 Llanidloes, t, c, Wales	1 1/2	1 1/2	1 1/2	1 1/2
18164 Mason & Barry, t, c, Venezuela	1 1/2	1 1/2	1 1/2	1 1/2
86000 New Quebrada, c, Venezuela	1 1/2	1 1/2	1 1/2	1 1/2
10000 Ditto, Debentures	1 1/2	1 1/2	1 1/2	1 1/2
30000 Oregon, c, Oregon, U.S. (pref. sh.)	1 1/2	1 1/2	1 1/2	1 1/2
50000 Pamplico, c, Chile	1 1/2	1 1/2	1 1/2	1 1/2
25000 Pitangui, t, c, Brazil (in 6000 £1 pd.)	1 1/2	1 1/2	1 1/2	1 1/2
14000 Pontbuan, t, c, France	1 1/2	1 1/2	1 1/2	1 1/2
100000 Port Phillip, c, Chile	1 1/2	1 1/2	1 1/2	1 1/2
50000 Rara Fortuna, t, c, Argentina	1 1/2	1 1/2	1 1/2	1 1/2
54000 Richmond Consols., t, Nevada	1 1/2	1 1/2	1 1/2	1 1/2
24532 Rio Tinto, t, c, Mortgage Bds., Huella	1 1/2	1 1/2	1 1/2	1 1/2
325000 Ditto, shares	1 1/2	1 1/2	1 1/2	1 1/2
40000 Santa Barbara, t, c, Brazil	1 1/2	1 1/2	1 1/2	1 1/2
120000 Scottish-Australian Mining Co., t, c	1 1/2	1 1/2	1 1/2	1 1/2
80000 Ditto, shares	1 1/2	1 1/2	1 1/2	1 1/2
22500 Sierra Butte, t, c, California	1 1/2	1 1/2	1 1/2	1 1/2
40000 Ditto, Plumas Eureka	1 1/2	1 1/2	1 1/2	1 1/2
253000 St. John del Rey (25 Stock and multiple deal in)	1 1/2	1 1/2	1 1/2	1 1/2
160000 Tamar, t, c, Wynaad	1 1/2	1 1/2	1 1/2	1 1/2
91896 Tharsis, t, c, Spain (31000 £1 pd.)	1 1/2	1 1/2	1 1/2	1 1/2
20000 Tolima, t, c, Colombia (A & B shares)	1 1/2	1 1/2	1 1/2	1 1/2
25000 Victoria (London), t, c, Australia	1 1/2	1 1/2	1 1/2	1 1/2
100000 Victoria (London), t, c, Australia	1 1/2	1 1/2	1 1/2	1 1/2
50000 Western Andes, t, c, Colombia	1 1/2	1 1/2	1 1/2	1 1/2
2100 W. Prussian (5500 pref. sh. £10 pd.)	1 1/2	1 1/2	1 1/2	1 1/2
64800 York Pen., t, c, South Aust. Pref.	1 1/2	1 1/2	1 1/2	1 1/2

* Have made calls since last dividend was paid.

NON-DIVIDEND BRITISH MINES.

Shares.	Price.	Last	Div.	Last
25000 Aberdun, t, c, Denbigh	1 1/2	1 1/2	1 1/2	1 1/2
30000 Alston United, t, c, Cumberland	1 1/2	1 1/2	1 1/2	1 1/2
12000 Anderton, t, c, c, Devonshire	1 1/2	1 1/2	1 1/2	1 1/2
12000 Assheton, t, c, Carnarvonshire	1 1/2	1 1/2	1 1/2	1 1/2
12000 Bedford Unit, t, c, Tavis (21 sh.)	1 1/2	1 1/2	1 1/2	1 1/2
30000 Bodidris, t, c, Denbighshire	1 1/2	1 1/2	1 1/2	1 1/2
30000 British, t, c, Wrexham	1 1/2	1 1/2	1 1/2	1 1/2
30000 Buono Consols., t, c, Flintshire	1 1/2	1 1/2	1 1/2	1 1/2
20000 Bwch United, t, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
50000 Carn Camborne, t, c, Camborne	1 1/2	1 1/2	1 1/2	1 1/2
20000 Carnarvon, t, c, Carnarvonshire	1 1/2	1 1/2	1 1/2	1 1/2
37500 Carnarvonshire Cons., t, c, Llanrwst	1 1/2	1 1/2	1 1/2	1 1/2
20000 Cathedral Cons., t, c, Gwynedd	1 1/2	1 1/2	1 1/2	1 1/2
20000 Central Foodstuffs, t, c, Isle of Man	1 1/2	1 1/2	1 1/2	1 1/2
25000 Coad-y-Fedw & Pant-y-Buarth, t, c	1 1/2	1 1/2	1 1/2	1 1/2
24500 Cook's Kitchen, t, c, Illogan	1 1/2	1 1/2	1 1/2	1 1/2
10000 Cornwall Great Cons., t, c, (4500 issued)	1 1/2	1 1/2	1 1/2	1 1/2
6400 Crook Burn, t, c, Cumberland	1 1/2	1 1/2	1 1/2	1 1/2
45000 D'Eresby Mountain, t, c, Llanrwst	1 1/2	1 1/2	1 1/2	1 1/2
12000 Derwent, t, c, Durham	1 1/2	1 1/2	1 1/2	1 1/2
53000 Devon, t, c, Tavistock	1 1/2	1 1/2	1 1/2	1 1/2
80000 Devon Friendship, t, c, s, Tavistock	1 1/2	1 1/2	1 1/2	1 1/2
12000 Devon Great United (21 sh.)	1 1/2	1 1/2	1 1/2	1 1/2
50000 Drakeville, t, c, Calstock	1 1/2	1 1/2	1 1/2	1 1/2
10000 Duddy Sike, t, c, Durham	1 1/2	1 1/2	1 1/2	1 1/2
12000 East Blue Hills, t, c, St. Agnes	1 1/2	1 1/2	1 1/2	1 1/2
6000 East Botallack, t, c, St. Just	1 1/2	1 1/2	1 1/2	1 1/2
6144 East Caradon, t, c, St. Cleer	1 1/2	1 1/2	1 1/2	1 1/2
4000 East Chiverton, t, c, Perranzabuloe	1 1/2	1 1/2	1 1/2	1 1/2
30000 East Devon Cons., t, c, Buckfastleigh	1 1/2	1 1/2	1 1/2	1 1/2
30000 East Herodsfoot, t, c, Liskeard	1 1/2	1 1/2	1 1/2	1 1/2
20000 East Long Lake, t, c, Wales	1 1/2	1 1/2	1 1/2	1 1/2
25000 East Roman Gravel, t, c, Salop	1 1/2	1 1/2	1 1/2	1 1/2
100 East Tregemore, t, c, c, Mazon	1 1/2	1 1/2	1 1/2	1 1/2
18000 East Van, t, c, Llanidloes	1 1/2	1 1/2	1 1/2	1 1/2
2048 East Wheel Lovell, t, c, Helston	1 1/2	1 1/2	1 1/2	1 1/2
100000 East Wheel Rose, t, c, Newlyn East	1 1/2	1 1/2	1 1/2	1 1/2
12000 Gawton, t, c, Tavistock	1 1/2	1 1/2	1 1/2	1 1/2
40000 Glas. Car. (300000 sh. £1 pd., 10000 15s. pd.)	1 1/2	1 1/2	1 1/2	1 1/2
14000 Glenroy, t, c, Isle of Man	1 1/2	1 1/2	1 1/2	1 1/2
10000 Gogard, t, c, c, Carnarvon	1 1/2	1 1/2	1 1/2	1 1/2
32000 Goginan, t, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
25000 Goodfellow, t, c, St. Cleer	1 1/2	1 1/2	1 1/2	1 1/2
8500 Gorsefield and Morley Cons., t, c, Flint	1 1/2	1 1/2	1 1/2	1 1/2
20000 Great Dylife (10000 sh. issued)	1 1/2	1 1/2	1 1/2	1 1/2
100000 Great Polgoth United, t, c	1 1/2	1 1/2	1 1/2	1 1/2
6000 Great West Chiverton, t, c, St. Agnes	1 1/2	1 1/2	1 1/2	1 1/2
10000 Gwyn-y-Mynydd, t, c, Flint (pref.)	1 1/2	1 1/2	1 1/2	1 1/2
7000 Gwydyr Amal, t, c, c, Carnarvon	1 1/2	1 1/2	1 1/2	1 1/2
12000 Herodsfoot, t, c, near Liskeard	1 1/2	1 1/2	1 1/2	1 1/2
18000 Hingston Down, c, Calstock	1 1/2	1 1/2	1 1/2	1 1/2
20000 Kirk Michael, t, c, (20000 unissued)	1 1/2	1 1/2	1 1/2	1 1/2
25000 Kit Hill Gt. Cons., t, c, s, s, (21 sh.)	1 1/2	1 1/2	1 1/2	1 1/2
15000 Lady Ann, t, c, Llanarmon	1 1/2	1 1/2	1 1/2	1 1/2
30000 Lady Ashburton, t, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
25000 Langford, t, c, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
15000 Llanidloes, t, c, Wales	1 1/2	1 1/2	1 1/2	1 1/2
5120 Lovell, t, c, Wenden	1 1/2	1 1/2	1 1/2	1 1/2
9000 Marley Valley, t, c, Llanidloes	1 1/2	1 1/2	1 1/2	1 1/2
6000 Medlyn Moor, t, c, c, Anglesea	1 1/2	1 1/2	1 1/2	1 1/2
20000 Mona Consols., t, c, Anglesea	1 1/2	1 1/2	1 1/2	1 1/2
15000 Monkstown, t, c, Devon	1 1/2	1 1/2	1 1/2	1 1/2
20000 Mynydd Gwddu, t, c, Flint	1 1/2	1 1/2	1 1/2	1 1/2
10000 Mynydd Gwddu, t, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
12000 Moria Down, t, c, s, Anglesea	1 1/2	1 1/2	1 1/2	1 1/2
80000 Mounts Bay, t, c, Breage	1 1/2	1 1/2	1 1/2	1 1/2
6144 Mount Carbis, t, c, Redruth	1 1/2	1 1/2	1 1/2	1 1/2
2400 New Cook's Kitchen, t, c, Illogan	1 1/2	1 1/2	1 1/2	1 1/2
8000 New Crook, t, c, c, Camborne	1 1/2	1 1/2	1 1/2	1 1/2
100000 New Great Wheel, t, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
10000 New Holm, t, c, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
6000 New Killy, t, c, St. Agnes	1 1/2	1 1/2	1 1/2	1 1/2
12000 New Penrose, t, c, c, Helston	1 1/2	1 1/2	1 1/2	1 1/2
15000 New Redmoor, t, c, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2
17500 New Terras, t, c, St. Austell	1 1/2	1 1/2	1 1/2	1 1/2
3500 New Tincroft, t, c, Lelant	1 1/2	1 1/2	1 1/2	1 1/2
12000 New Tincroft, t, c, Wenden	1 1/2	1 1/2	1 1/2	1 1/2
12000 New West Cardigan, c, Liskeard	1 1/2	1 1/2	1 1/2	1 1/2
3000 New Wheel Pevor, t, c, Redruth	1 1/2	1 1/2	1 1/2	1 1/2
35000 New Wye Valley, t, c, Montgomery	1 1/2	1 1/2	1 1/2	1 1/2
12000 North Blue Hills, t, c, St. Agnes	1 1/2	1 1/2	1 1/2	1 1/2
5238 North Busy, t, c, Scorrier	1 1/2	1 1/2	1 1/2	1 1/2
10000 N. D'Eresby Mount, t, c, c, Carnarv.	1 1/2	1 1/2	1 1/2	1 1/2
25000 North Goginan, t, c, Cardigan	1 1/2	1 1/2	1 1/2	1 1/2

NON-DIVIDEND MINES—continued.

Shares.	Price.	Last	Div.	Last
6400 North Green Hurth, * (3400 12 p. d.)	1 0 6.	—	—	—
25000 North Grogwin, * s, c, Cardigan	1 0 0.	1 1/2	1 1/2	1 1/2
12000 North Herodsfoot, t, Liskeard	0 12 0.	1 1/2	1 1/2	1 1/2
50000 North Molton, * c, m, s, Devon	1 0 0.	1 1/2	1 1/2	1 1/2
20000 North Penstruthal, t, c, Gwynnap	2 11 6.	—	—	—
2338 North Treskerby, c, St. Agnes	1 0 0.	—	—	—
8000 Northern, t, Durham	8 17 10.	—	—	—
40000 Okel Tor, * t, c, c, Calstock	1 0 0.	—	—	—
80000 Old Shepherds, s, Cornwall	1 0 0.	1 1/2	1 1/2	1 1/2
6000 Owen Veau & Tregur, * t, c, Marazion	1 0 0.	1 1/2	1 1/2	1 1/2
12000 Pandora, * t, Carnarvon	2 0 0.	—	—	—
5000 Parys Corporation, * c, s, Pasa	1 0 0.	1 1/2	1 1/2	1 1/2
7500 Pateley Bridge, t, Yorkshire	1 0 0.	1 1/2	1 1/2	1 1/2
6000 Pedn-an-drea, t, Redruth	3 7 0.	—	—	—
12000 Pelyn Wood, c, Llanvory	0 2 0.	2 1/2	1 1/2	2 1/2
20000 Penegarg, t, Carmarthenshire	1 0 0.	1 1/2	1 1/2	1 1/2
12000 Pen-y-Osred, * t, Flintshire	1 0 0.	1 1/2	1 1/2	1 1/2
15000 Penryn Consols, * s, c	1 0 0.	1 1/2	1 1/2	1 1/2
12000 Perran Well, Alford, c	1 0 0.	1 1/2	1 1/2	1 1/2
3000 Polcrobo, t, Crown	0 2 6.	1 1/2	1 1/2	1 1/2
10000 Polrose, t, Cornwall	0 12 6.	1 1/2	1 1/2	1 1/2
10000 Port Nigel, * s, t, Carnarvonshire	2 0 0.	—	—	—
8000 Prince Royal, t, c, s, St. Agnes	1 0 6.	—	—	—
12000 Prince of Wales, c, s, Calstock	0 19 6.	—	—	—
15000 Royalton, t, St. Columb	1 0 0.	1 1/2	1 1/2	1 1/2
36000 Russell United, * c, Tavistock	0 15 6.	—	—	—
3000 Silver Hill, * Callington	1 0 0.	1 1/2	1 1/2	1 1/2
50000 Sinclair, * t, b, Whitford	1 0 0.	1 1/2	1 1/2	1 1/2
40000 Soudridge, c, Horrabridge	1 0 0.	0.5s. 8d.	—	—
2000 South Garbis, t, c, Redruth	0 10 0.	2 1/2	1 1/2	2 1/2
42000 South Devon, * c, Bideford	1 0 0.	1 1/2	1 1/2	1 1/2
5000 South Dolowath, c, t, Illogan	0 19 0.	1 1/2	1 1/2	1 1/2
6000 South Penstruthal, t, c, Gwynnap	2 11 6.	—	—	—
6000 South Tolarne, t, c, Camborne	5 11 6.	5	3	8
2043 South Wheel Crofty, c, Illogan	2 17 0.	12	10	12
40000 Tamar, s, t, Bearlston	1 0 0.	1 1/2	1 1/2	1 1/2
110000 Tavankville Gt. Consols, t, Salop	1 0 0.	1 1/2	1 1/2	1 1/2
6400 Teesdale, t, Durham (pref.)	1 0 0.	—	—	—
20000 Tin Hill, * t, St. Stephens	1 0 0.	1 1/2	1 1/2	1 1/2
12000 Trebartha Lemanne, t, Northill	0 1 6.	7	1	11
12000 Trebartha, t, c, Camborne	3 10 0.	3 1/2	2 1/2	3 1/2
100000 Trevaean, * t, Gwynnap	1 0 0.	1 1/2	1 1/2	1 1/2
6000 Trevaun United, * t, Cornwall	1 0 0.	1 1/2	1 1/2	1 1/2
8000 Trevaunance, t, St. Agnes	0 2 0.	2 1/2	1 1/2	2 1/2
12000 Trevaunce Consols, t, c, Gwynnap	0 5 0.	—	—	—
35000 Un. Van & Glyn, * t, c, (17500 pref. sh)	1 0 0.	—	—	—
1000 Vaughan, * t, Cardiganshire	10 0 0.	1 1/2	1 1/2	1 1/2
8000 Victor, * t, Cilcen, Flintshire	0 14 0.	—	—	—
2000 Violet Seton, c, Camborne	12 0 0.	12	10	12
15000 Vincent, t, Altarnun	1 0 0.	—	—	—
12000 West Ashton, t, c, Carnarvon	1 0 0.	—	—	—
12000 West Caradon, c, St. Cleer	1 0 0.	—	—	—
3000 W. Craven Moor, t, Pateley Bridge	10 0 0.	1 1/2	1 1/2	1 1/2
12000 West Crebor, c, Tavistock	0 7 6.	—	—	—
10240 West Devon Consols, c, Calstock	1 2 0.	1 1/2	1 1/2	1 1/2
10000 West Godolphin, t, c, Breage	1 1 0.	1 1/2	1 1/2	1 1/2
6000 West Kitty, t, St. Agnes	0 12 0.	14	12	14
2000 West Liskeard, t, Cardigan	1 0 0.	1 1/2	1 1/2	1 1/2
3000 West Meland, t, c, St. Austin	1 13 0.	1 1/2	1 1/2	1 1/2
2000 W. Pateley Bridge, t, Yorkshire	0 5 6.	1 1/2	1 1/2	1 1/2
6000 West Polbreen, t, c, St. Agnes	0 5 6.	1 1/2	1 1/2	1 1/2
5190 West Poldice, St. Day	6 5 0.	4	4	4
2048 West Wheel Frances, t, Illogan	33 8 3.	11	—	—
3000 West Wheel Peevor, t, Redruth	3 0 6.	9	9	9
6000 Wheel Agar, c, Illogan	16 0 0.	17 1/2	12 1/2	17 1/2
6100 Wheel Alford, t, c, St. Austin	7 9 0.	9	7	9
2000 Wheel Brea, t, Redruth	0 16 0.	1 1/2	1 1/2	1 1/2
5000 Wheel Castle, * c, t, St. Just	0 4 0.	1 1/2	1 1/2	1 1/2
12000 Wheel Coates, t, St. Agnes	0 4 0.	1 1/2	1 1/2	1 1/2
2585 W. Comf., t, No. Tres., t, c, Gwynnap	2 2 0.	1 1/2	1 1/2	1 1/2
5000 Wheel Elizabeth, * t, Cornwall	1 0 0.	—	—	—
12238 Wheel Jane, t, Kea	2 1 6.	1 1/2	1 1/2	1 1/2
12000 Wheel Lewelly, t, St. Hilary	1 0 6.	3	—	—
25000 Wheel Loe and Trevelyan, s, t, Lisk.	2 0 0.	1 1/2	1 1/2	1 1/2
12000 Wheel Lusk, t, Callington	0 7 3.	8 1/2	—	—
2000 Wheel Owles, t, St. Just	0 7 3.	8 1/2	—	—
6000 Wh. Prussia, & Cardrew, t, c, Rdith	2 10 0.	1 1/2	1 1/2	1 1/2
30000 Wh. Silver & Lanteglos, * c, t, Camelfd.	1 0 0.	1 1/2	1 1/2	1 1/2
6000 Wheel Sisters, t, Lelant	3 10 0.	1 1/2	1 1/2	1 1/2
4036 Wheel Uny, t, c, Redruth	16 19 6.	5	4	5
4000 Ystwith, * t, Cardigan	1 0 0.	—	—	—